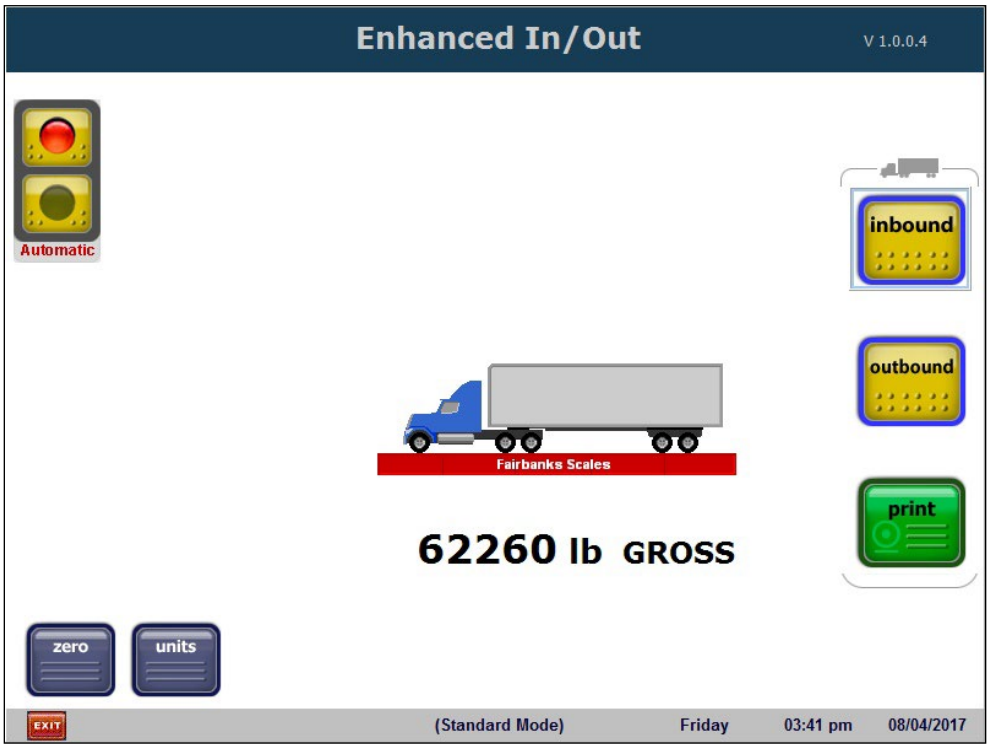
Operators Manual

FB4000 Enhanced In / Out Application



51386
Revision 5 09/24

Disclaimer

Every effort has been made to provide complete and accurate information in this manual. However, although this manual may include a specifically identified warranty notice for the product, Fairbanks Scales makes no representations or warranties with respect to the contents of this manual, and reserves the right to make changes to this manual without notice when and as improvements are made.

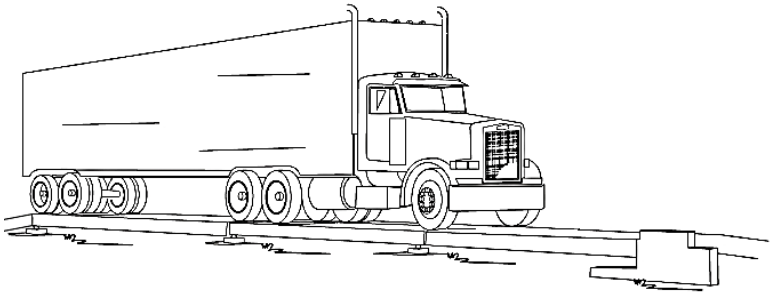
It is the responsibility of the requesting party to develop, maintain, install, and connect networking devices and general network connectivity as it applies to the originating party's network. No warranty or guarantee, expressed or implied, concerning the network, its design, its installation, or operational characteristics has been offered by Fairbanks Scales. Fairbanks Scales shall not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether or not based on express or implied warranty, contract, negligence, or strict liability arising in connection with the design, development, installation, or use of an intended network.

Amendement Record

FB4000 Enhanced In/Out Application

Document 51386

Created	10/2017	
Revision 1	10/2017	Documentation Release
Revision 2	05/2018	Updated Remote Display
Revision 3	08/2019	Added printer information; Adding Serial/USB printers
Revision 4	02/2024	Updated: Section 3: Enhanced In/Out System Mode of Operation
Revision 5	09/2024	Updated: Enhanced In/Out System Mode of Operation



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Section 1: General Information

1.1. Description

The **FB4000 Enhanced In / Out Application** provides a weighment system specifically designed for inbound and outbound weighing with the ability to store truck IDs for re-weighs and save stored tares.

The **FB4000 Enhanced In / Out Application** *can accommodate up to eight separate weighment platforms.*

The FB4000 Enhanced In / Out Application can be divided into *four separate applications*.

- **User Interface –** Translates computer language into a usable English format (or another).
- **Data Collection & Reporting –** Maintains the database information required by the **Enhanced I/O System Interface Application**.
- **Weigh Kernel –** The primary underlying weighment program that interfaces directly with the scales.
- **Error Logging –** Used for quality control and for troubleshooting errors.

NOTE: *For **multiple terminal installations**, a redundant storage model is used. Each terminal has a complete copy of the data.*

1.2. Main Program Features

Some *main features* of the FB4000 Enhanced In / Out Application are listed below.

- The **FB4000 Enhanced In / Out Application** supports up to five (5) networked terminals.
- The system has configurable outputs, as well as the remote display output of individual scale weights and their combined total.
- Current date and time displays on all screens, except when a user is working in the setup and configuration screens.
- The application allows for up to ten programmable prompts and legends.
- User navigation includes touch screen, mouse and keyboard options.
- Reporting, ticket formatting and printing is done with drag and drop fields.

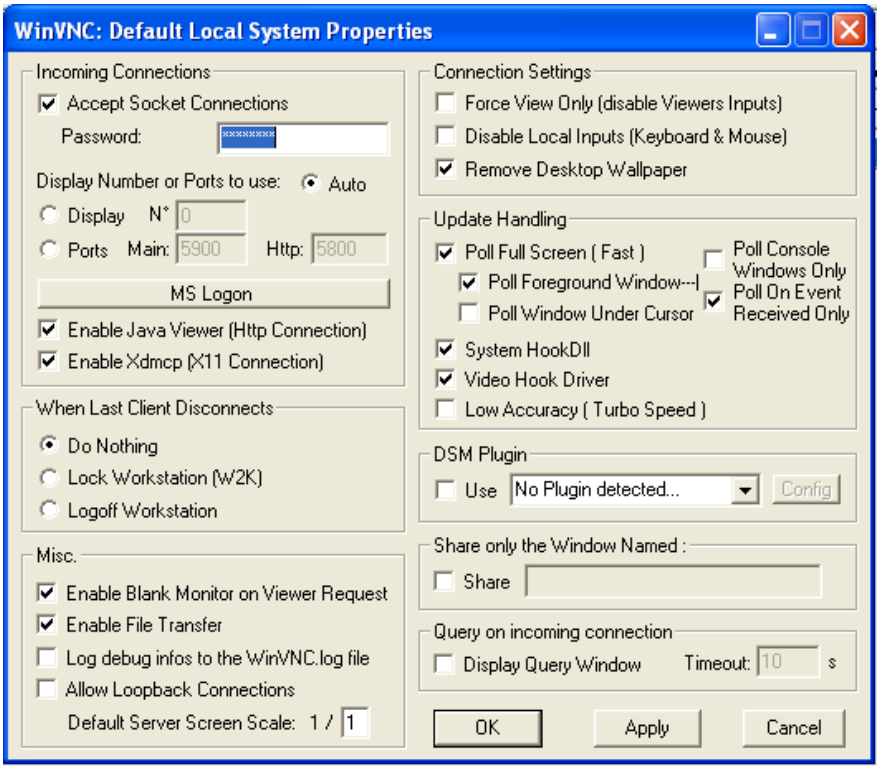
A T T E N T I O N

It is *strongly advised* to keep the following manuals on hand to reference specific setup and programming needs:

✓ **FB4000 Kernel Program Operator's Manual – Doc. #51364**

1.2. Main Program Features, Continued

- The customer's logo can print onto the tickets.
- The program has control for one set of traffic lights.
- Video camera input for up to two Ethernet Cameras.
  - The display alternates to the active one.
  - An animated inactivity screen displays, after a timed delay, when neither is in use.
- The program has a **Void Weighment** feature, which allows for one ticketed transaction to be removed.
- All remote access is negotiated using **Ultra VNC™.**



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Section 2: Service Policy Information

2.1. General Service Policy

Prior to installation, ***always*** verify that the equipment satisfies the customer's requirements as supplied, and as described in this manual.

It is the customer/operator's responsibility to ensure the equipment provided by Fairbanks is operated within the parameters of the equipment's specifications and protected from accidental or malicious damage.

W A R N I N G !

Absolutely NO physical, electrical or program modifications other than selection of standard options and accessories can be made by customers to this equipment

Repairs are performed by Fairbanks Scales Service Technicians and Authorized Distributor Personnel ONLY!

Failure to comply with this policy voids all implied and/or written warranties

2.2. Overview

2.2.1. Physical Installation Notes

- Check all devices for proper operation. If any error messages occur, refer to Troubleshooting or the proper manual of that device.
- ***Only those charges which are incurred as a result of the equipment's inability to be adjusted to performance specifications may be charged to warranty.***

The installing technician is responsible that all personnel are fully trained and familiar with the equipment's capabilities and limitations before the installation is considered complete.

2.2.2. Electronic Component Care

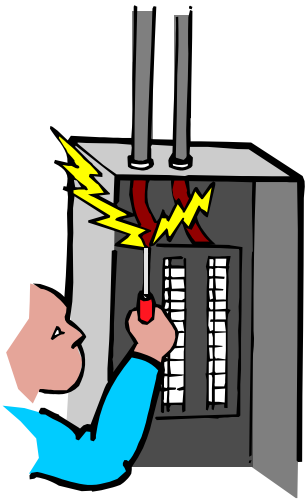
- Much of the equipment consists of printed circuit assemblies, which ***must be*** installed using **ESD handling procedures**.
- Replacement of individual components is not allowed.
- All components must be returned intact for replacement credit per normal procedures.
- All electronic and mechanical adjustments are considered to be part of the installation, and are included in the installation charge(s).
- Included is any required computer programming or upgrades.
- Included are any accuracy and/or operational specification changes.
- The AC receptacle / outlet shall be located near the Indicator and easily accessible.
- Electrical connections other than those specified may not be performed.

2.2.3. Conferring with Our Client

- The technician must be prepared to recommend the arrangement of components which provide the most efficient layout, utilizing the equipment to the best possible advantage.
- The warranty policy must be explained and reviewed with the customer.

★ ★ IMPORTANT INSTALLATION NOTICE ★ ★

- ✓ **All communications which utilize RS232 Serial Cable *must be* limited to fifty (50') feet.**
- ✓ **All load cells, load cell cables and interconnecting cables used to connect all scale components shall be located a minimum of thirty-six (36") inches distance away from all single and multiple phase high energy circuits and electric current carrying conductors.**
  - *This includes digital weight indicators, junction boxes, sectional controllers, and power supplies.*
  - *This includes any peripheral devices, such as printers, remote displays, relay boxes, remote terminals, card readers, and auxiliary data entry devices.*
  - *Also included is the scale components themselves, such as 120 volt AC, 240 volt AC, 480 volt AC and electric supply of higher voltage wiring runs and stations, AC power transformers, overhead or buried cables, electric distribution panels, electric motors, florescent and high intensity lighting which utilize ballast assemblies, electric heating equipment, traffic light wiring and power, and relay boxes.*
  - *This includes all scale components, including digital weight indicators and peripheral devices that are not designed to operate on internal combustion engine driven electric generators and other similar equipment.*



- ✓ **Electric arc welding can severely damage scale components such as digital weight indicators, junction boxes, balance boards, sectional controllers, power supplies, and load cells.**

NOTE: *For additional information, please contact your* **Fairbanks Scales Service Representative.**

Summary:

- ✓ *All* **scale components** *must be located* **at least thirty-six inches (36") away** *from all* **high energy circuits** *and* **conductors.**
- ✓ No **electric arc welding** *around any* **scale components.**

2.2.4. Pre-Installation Checklist

The following points should be thoroughly discussed between the Fairbanks Representative and the Customer, before the Service Technician installs any software or equipment.

- ✓ Study the current Office Network and decide how the scale system can best integrate into it.
  - Would a standalone unit be the best option?
  - Are the IP Addresses dynamic or set manually?
  - What are all the needed employee computer IP Addresses?
- ✓ Decide the printer(s) arrangements within the Office, and list which users will link to each one.
- ✓ Determine the best physical placement for the scale(s) with its approaches and exits, where the station(s) should be located, and also where the video cameras should be put, if any are used.
- ✓ Make a detailed list of the current employee hierarchy and note how the employee duties should determine their security level.
- ✓ List the level(s) of training each employee needs over the LabelBank and the DataBank Applications.

After arriving, the Service Technician reviews the recommended setup with the Area Sales Manager or Area Service Manager, and together they identify any necessary variations to satisfy the customer's application.

2.2.5. Users' Responsibility

- ✓ All electronic and mechanical calibrations and/or adjustments required for making the equipment perform to accuracy and operational specifications are considered to be part of the installation.
  - This is included in the installation charge.
  - Only those charges which are incurred as a result of the equipment's inability to be adjusted or calibrated to performance specifications may be charged to warranty.
- ✓ Absolutely no physical, electrical or program modifications other than selection of standard options and accessories are to be made to this equipment.
- ✓ The equipment consists of printed circuit assemblies which must be handled using ESD handling procedures, and must be replaced as units.
  - Replacement of individual components is not allowed.
  - The assemblies must be properly packaged in ESD protective material and returned intact for replacement credit per normal procedures.

Section 3: Enhanced In/Out System Mode of Operation

3.1. Introduction

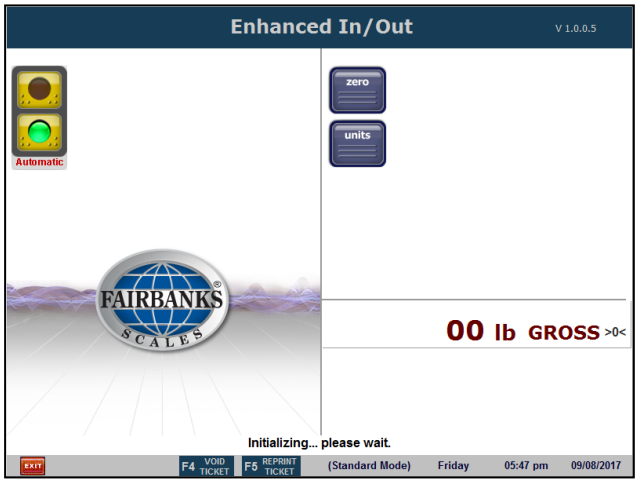
The **Enhanced In/Out System Application** is specifically designed and intended for Inbound and Outbound weighing.

- The **Enhanced In/Out System** typically weighs a semi-truck in one weighment, depending on the number of scales and length of trailer.
- This system is superior to an axle scale since the weight can be obtained in one weighment, and it can still provide axle weight information.

3.2. Descriptions

The **Idle Screen** displays when weight on the scale is below the initial weight threshold setting.

- An animated image displays after a configurable period of non-usage.
- **Weight Threshold Values** trigger a weighment cycle and define the maximum legal weight limit for each axle scale.



*This **Idle Screen** displays the **Enhanced In/Out Program** default window, shown here **without** the Video Camera option.*

- **Legal Weight Limits** are used to calculate and print the difference between the actual weight and the legal limit.
  - They also trigger a popup error window on the display, turning the weight display to red if the weight on the scale exceeds the configurable limit.

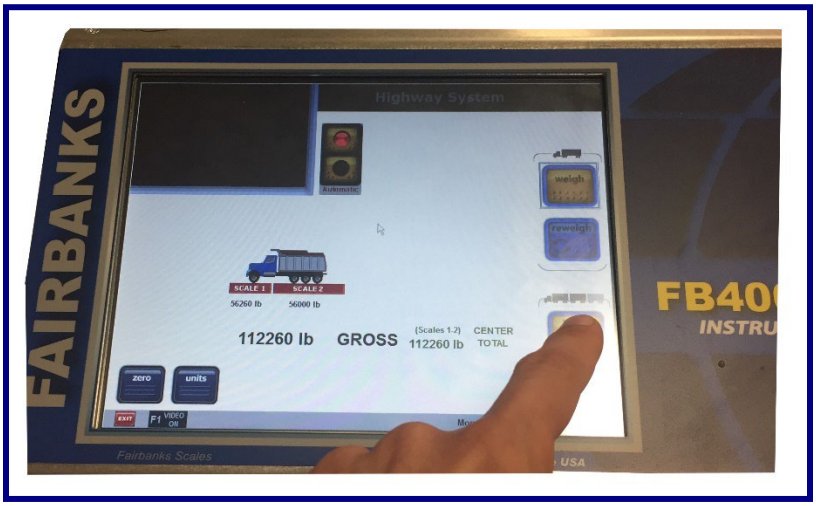
3.2.1. Traffic Lights

The **Traffic Light Control**, when activated, shows the status of the scale and is controlled automatically by the instrument weighment cycle.

- The light has a **manual override** using the touch screen or function key.
- This supports **one (1) set of lights**.

3.3. Navigation Tips

The three main ways to navigate through the **Enhanced I/O System Program** are listed below.



3.3.1. Using the Touchscreen

The Touchscreen is the most user-friendly way of navigating through the different menu options.

This application ***does not require*** using a mouse with the touchscreen.

3.3.2. Using Only the Keypad

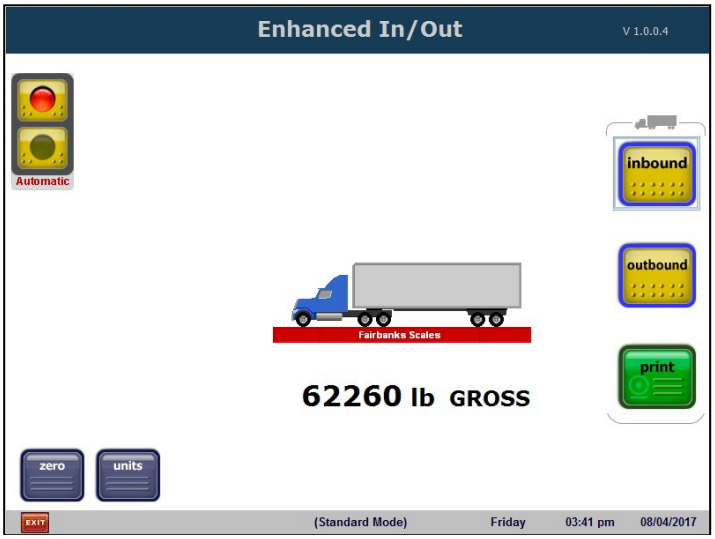
Although this is the most difficult way to navigate through the different fields, it is still possible to enter numeric values and configure dialogs using only the keypad.

Useful key functions include the following:

- The **Tab** key advances to the next field.
- The **UP/Down Arrow** keys move between fields.
- The **Left/Right Arrows** navigate within the field.
- The **Enter** key selects a choice.

3.4. Menu Navigation

3.4.1. Main Weighment Screen



Enhanced In/Out screen with traffic light installed

3.4.2. Specialized Keys

On-Screen Keyboard	External Keyboard	Description
zero	Pause Break	This key **Zeros the Scale,** once the truck is scale-borne.
units	Scroll Lock	Toggles the **Weight Units**.
- - - -	home	**Enhanced In/Out Operation –** Displays the **Configuration Items** menu.
- - - -		Opens the mo nitor to the **Windows® Desktop** view.
Arrows	**Arrows**	• Navigates through the display. • Used also for scrolling.
	F1	• **F1** turns the camera ***on***, if available. • Selects **Inbound Format** while in **Ticket Formatting Operation.**
	F2	• **F2** turns the camera ***off***, if available, while in **Enhanced I/O Operation.** • Selects **Outbound Format** while in **Ticket Formatting Operation.**

3.4.2 Specialized Keys, Continued

On-Screen Keyboard	External Keyboard	Description
- - - -	F3	• **F3** displays the list of **Inbound Records** during the Outbound entry of the **Truck/Loop ID** while in **Enhanced In/Out.** • Selects **GTN Format** while in **Ticket Formatting Operation.**
- - - -	F4	• **F4** activates the **Void Ticket** function
- - - -	F5	• **F5** opens the **Format Ticket** menu while in **Ticket Formatting Operation** and **Reprint Function** (from Weigh Screen)
- - - -	F6	• **F6** activates the **Delete Ticket** function while in **Ticket Formatting Operation**
- - - -	F7	• **F7** opens the **View Printers** window while in **Ticket Formatting Operation**
- - - -	F8	• **F8** opens the **Add Printer** function while in **Ticket Formatting Operation**
- - - -	Esc	• **Esc** button **Cancels/aborts** the function. • Reverts to previous window.
- - - -	End	If entering weighment data, pressing this displays the **Print, Edit**, and **Cancel** buttons regardless of which data item is being entered.
Print	Print Scrn SysRq	Prints a ticket, but only when the **Print** button displays.
- - - -	Enter	• Enters weighment data, and the last data item processed. • Displays the **Print, Edit**, and **Cancel** buttons.
	Ctrl + A	Toggles the **Traffic Light** if set for **Manual** control.
	Ctrl + V	Toggles the displayed **Video Image**, if so configured.
	Ctrl + X	Mimics the **Exit Application** button.
	Alt + Tab	Switches software programs without closing any of them.

NOTE: *Function Keys (**F-Keys**) **9** thru **12** are not used.*

3.5. Quick Setup for FB4000 to a USB Printer

1. Close all applications and perform a shutdown on the FB4000.
2. Connect printer to any available USB port on the **back** side of the FB4000.
3. Power up the printer **first** then power up the FB4000.
4. On boot up, notice **device installation** in the task bar. Let all applications initialize before proceeding to step 5.
5. Exit your Application by clicking the **EXIT** button.
6. Select **Exit Application** by double clicking.
7. Move mouse to lower left corner **Windows** icon should appear.
8. Right click on the **Windows** icon.
9. Type in and click on **CONTROL PANEL**
10. Click on **Devices and Printers**
11. Find the **ML420, Brother L2300D, or Current USB printer** and right click on it.
12. Left click on **set as default printer**.
13. Example: After choosing **ML420**. A ✓ appears next to it.
14. Right click on the **ML420** (your printer)
15. Click **Printer Properties**
16. Click on **Print test page** test page should print.
17. Close all windows and relaunch your application by double clicking the **FB4000** icon
18. Once your application is running, press the **HOME** key on your keyboard
19. Now proceed to Section 6.2: Formatting Tickets for detailed instructions on setting up your ticket.

3.6. Quick Setup for FB4000 to a Serial Printer

1. Exit your Application by clicking the **EXIT** button.
2. Select **Exit Application** by double clicking.
3. Move mouse to lower left corner **Windows** icon should appear.
4. Right click on the **Windows** icon.
5. Type in and click on **CONTROL PANEL**
6. Click on **Devices and Printers**
7. Find the **EPSON TM U590** and right click on it
8. Hover over printer **set as default printer** click on the appropriate printer.
   Example: After choosing **TM U295**. A ✓ appears next to **EPSON TM U295.**
9. Right click on the **EPSON TM U295** (your printer)
10. Click **Printer Properties**
11. Click the **Ports** tab

12. Choose the correct **COM** port connected to the printer.
13. Check the box for the appropriate com port.
14. Click configure port…
15. Verify the baud, parity, stop bits and flow control.
16. Click **Apply** if you made changes then click **ok** if correct.
17. Click **Apply** again then click **OK.**
18. Hit **F5** key to refresh.
19. Right click on the **TM U295**.
20. Click on **Printer** properties**.**
21. Click on **Print test page** test page should print.
22. Close all windows and relaunch your application by double clicking the **FB4000** icon
23. Once your application is running, press the **HOME** key on your keyboard
24. Now proceed to Section 6.2: Formatting Tickets for detailed instructions on setting up your ticket.

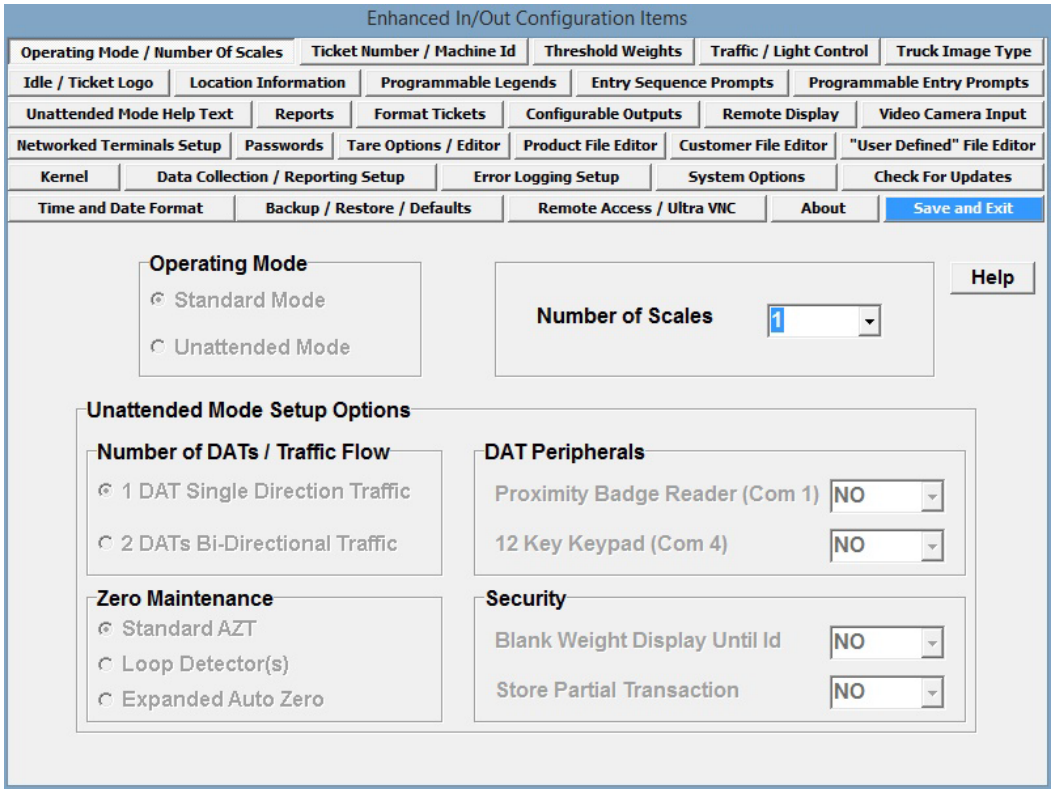
3.7. Defining the Configuration Items

There are thirty-two (32) formatting tabs used in the **FB4000 Enhanced I/O System Configuration Menu.**

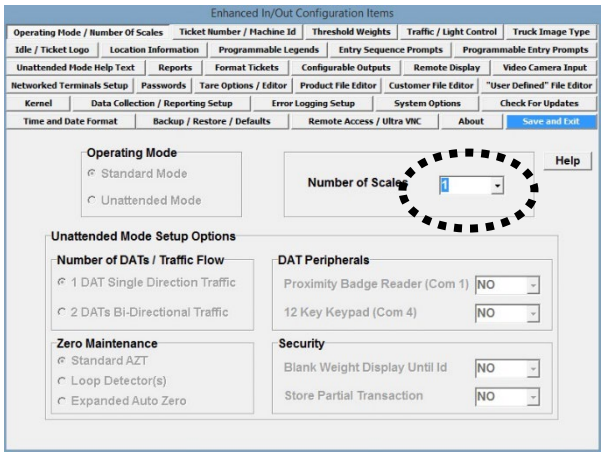
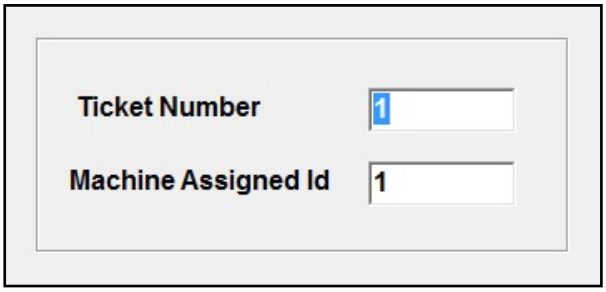
Access the **Main Configuration Window** by pressing the keyboard **Home** button.

Pressing the **Home button** *accesses the* **Main Configuration Window.**

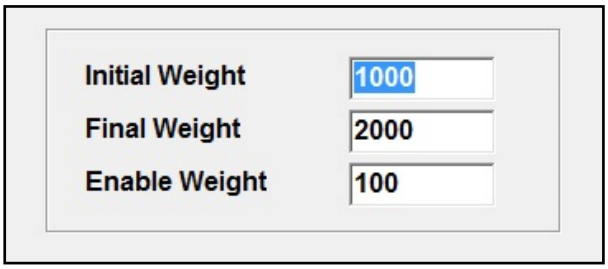
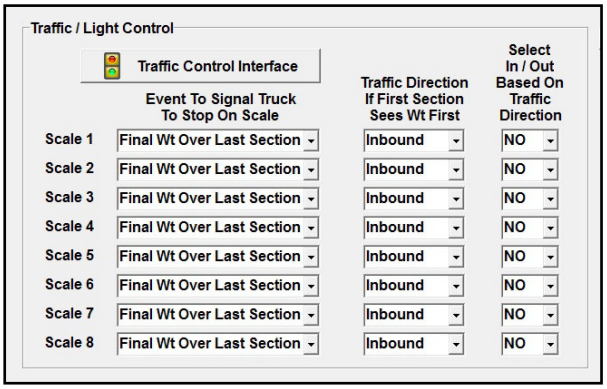
NOTE: *Special permission is required to access certain tabs. If attempting to access a tab that requests a password, contact your scale technician for assistance.*



*The following section details each of the 4000 Enhanced I/O System Configuration Items, beginning with the **upper-left tab** and moving across and down to the **lower-right tab**.*

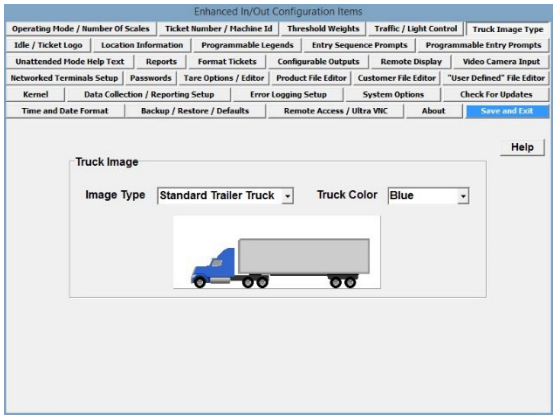
Definition	Window
3.7.1. Operating Mode / Number of Scales **Number of Scales** option can be set from 1 to 8 scales.	
3.7.2. Ticket Number/Machine ID **Ticket Number** is the number of the next ticket print. **Machine Assigned ID** is the **next Loop Number** assigned by the instrument if no Loop Number/ Truck ID is entered during an ***Inbound Weighment.***	

NOTE: *Throughout these description frames, only the necessary **bottom sections** are shown. The **top tabbed area** is eliminated to save space.*

Definition	Window
### 3.7.3. Threshold Weights **Initial Weight** sets the minimum amount the truck must weigh to display the ***Weighment Selection Screen***, and to initiate a weighment. **Final Weight** is the value that, when applied to the front-most scale, causes the traffic light to automatically turn red. **Enable Weight** value the weight must drop below to reset for the next weighment.	
### 3.7.4. Traffic / Light Control Select **Traffic/Light** to **Enable** the traffic light, and **NO** to **Disable** it. **Control Method** sets to **AUTOMATIC** or **MANUAL** (when **Enabled**). ★ ★ **IMPORTANT** ★ ★ — **AUTOMATIC** weighs the truck(s) once its weight is stable, without the assistance from an operator (normal setting). — **MANUAL** is used when the operator presses the **Enter** button on the external keyboard to weigh the truck, usually used in a multi-axle weighment.	

3.7.5. Truck Image Type

- Adjust the ***Image Type*** to the vehicle type most commonly weighed.
- Adjust ***Truck Color***



3.7.6. Idle/Ticket Logo

Programs the logo design onto the **Idle Screen**, and also on the ticket.

- Bitmap Files located in the **C:\FB4000_EnhancedIO\LOGOS** folder displays for selection.

Size of the useable display area depends on whether the **Video Camera Input** and **Traffic Light Control** are used.

- When both are present, the **Traffic Light Control** and the **Video Camera Input Display Image** cover the **Ticket Print Logo**.

Height, Width, Top and **Left** refer to the Bitmap image position on the screen. All values are in **pixels.**

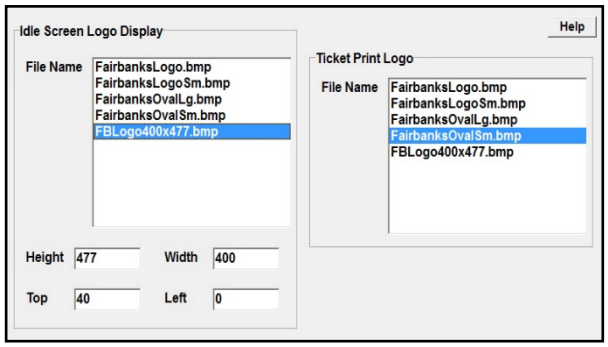
The **Inactivity Time Trigger** setting controls how long of a period of inactivity must elapse before the **Animated Inactivity Image** displays.

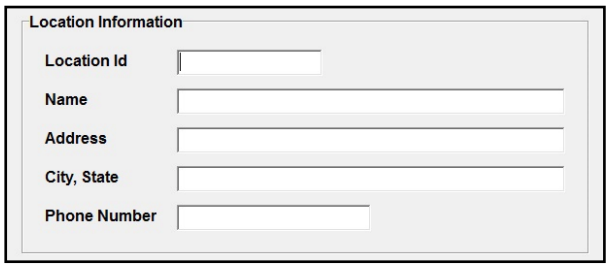
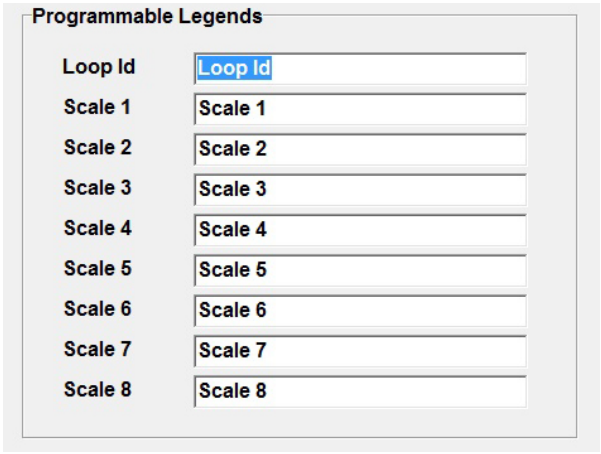
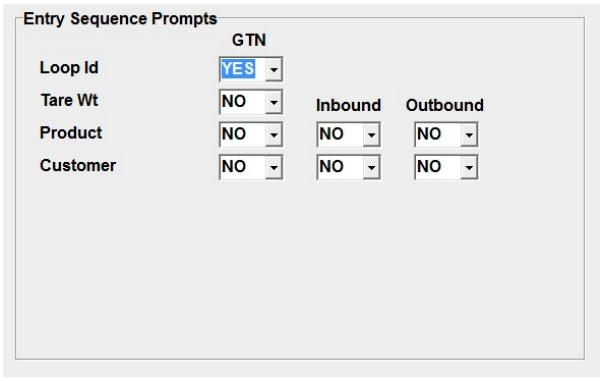
✓ **Default Display = FBLogo400x470.bmp**

The **Display Logo** is used regardless of whether the **Video Camera Input** or **Traffic Light Control** are used, because the upper part of the logo image is white.

- Any other image besides the **Default Logo** must be dragged-and-dropped into place on the page, as its gray box will need adjustment.

NOTE: The printer must be capable of printing logos on the ticket to activate the logo feature.



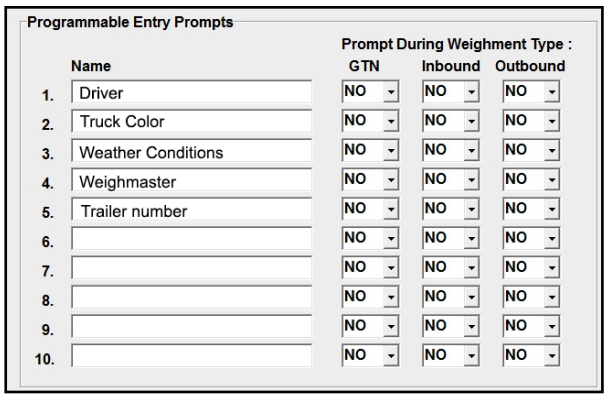
Definition	Window
### *3.7.7. Location Information* Programs the address and telephone number of the business where the scale is located.	
### *3.7.8. Programmable Legends* **Programmable Legends –** Determines the legends for the **TRUCK** (or **Loop**) **ID** and **Axles.** *Twenty (20) characters max.*	
### *3.7.9. Entry Sequence Prompts* **Entry Sequence Prompts –** Turns prompts **ON** or **OFF**, based on the selection. — The prompt must be **ON** or the field will not display.	

3.7.10. Programmable Entry Prompts

Name – Programmable legend (title) of the prompt as it displays.

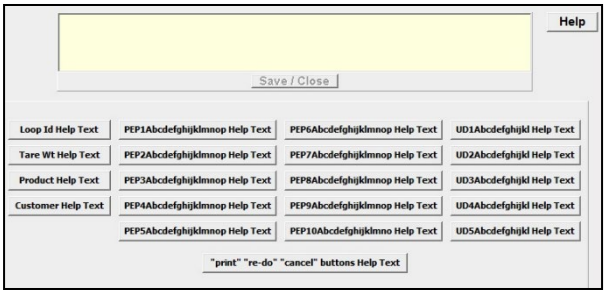
— *Twenty (20) characters max.*

Prompt During Weighment Type – Turns **ON** or **OFF** prompts for the weighment type selected.



3.7.11. Unattended Mode Help Text

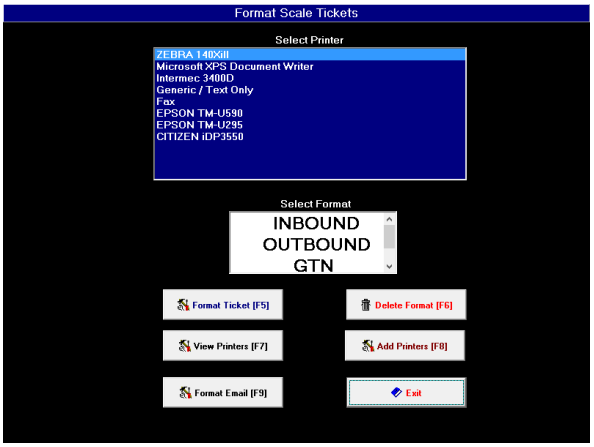
***** Not currently used *****



3.7.12. Reports

Prints one of the eight following reports:

- **Completed Transactions**
- **Incomplete Transactions**
- **Report by Product**
- **Report by Customer**
- **Daily Report**
- **Weekly to Date Report**
- **Voids Report**
- **Scale Activity Summary Audit**

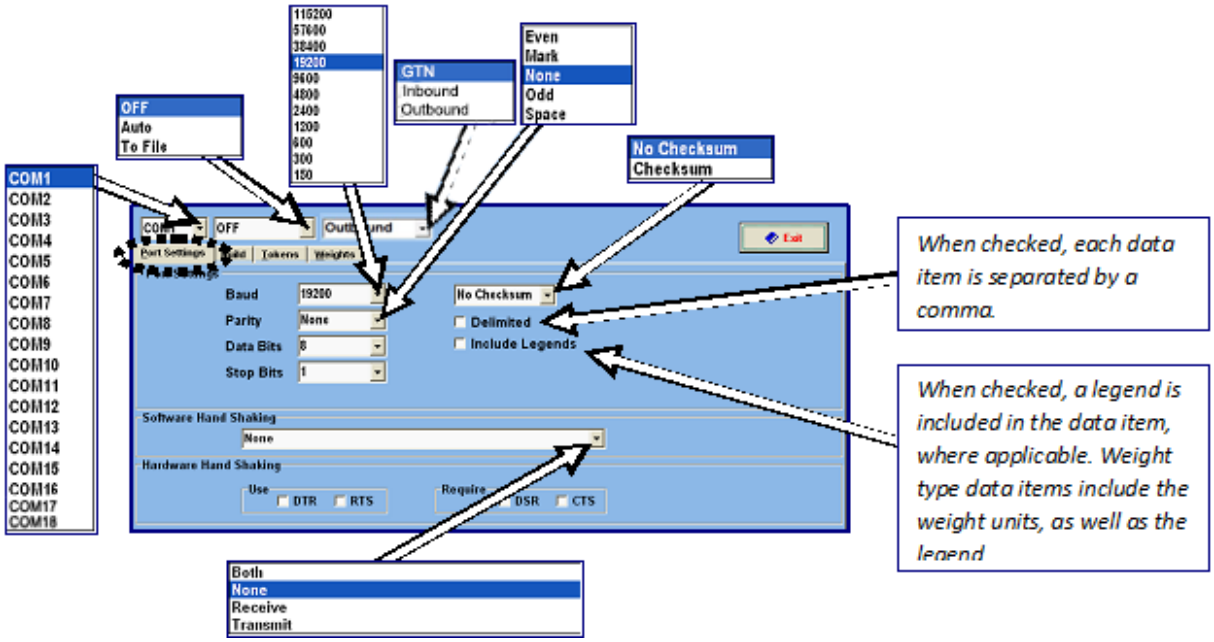
Definition	Window
### *3.7.13. Format Tickets* **Formats Tickets** for each printer used. Functions within this window include the following: — Formatting a Ticket **[F5].** — Delete an unneeded ticket format **[F6].** — View all available printers **[F7].** — Add a new printer **[F8].** — Format Email **[F9].** *Complete details for formatting the Scale Tickets is located in* **Section 7: Serial Input/Output.**	

Definition

3.7.14. Configurable Outputs: Port Settings

Sets the communication parameters and output type for the selected communication port.

- ✓ **Port Default = COM1** *(Same on all* **Configurable Outputs** *windows)*
- ✓ **Output Type Default = OFF** *(Same on all* **Configurable Outputs** *windows)*
  - — **Auto** transmits a serial data string to the selected COM Port when a print is done.
  - — **To File** saves the transmission to the **C:\TRAINS\TRAINS.txt** file when a print is done.
- ▪ *The format of the* **Auto** *and* **File Output** *is controlled by the* **Delimited and Include Legends** *check boxes and the* **Build, Tokens,** *and* **Weight** *tabs.*
  - ✓ **Baud Default = 19200**
  - ✓ **Parity Default = None**
  - ✓ **Data Bits Default = 8**
  - ✓ **Stop Bits Default = 1**
  - ✓ **Checksum Default = No Checksum**
  - ✓ **Software Handshaking Default = None**
- ▪ ***Hardware Hand Shaking*** *controls the flow of data between the* ***Application*** *and the* ***Receiving Device*** *by using hardware lines.*
  - ✓ **Hardware Handshaking Default = No checkboxes selected**
    - — **DTR (Data Terminal Ready)** – A control signal that indicates that the Data Terminal Equipment (DTE) is ready for data transmission.
    - — **RTS (Request To Send)** – A control line which receives a verification signal from the CTS Control Line when it is ready to send data.
    - — **DSR (Data Set Ready) –** A control signal that indicates the device is ready to transmit data.
    - — **CTS (Clear To Send) –** A control signal used to notify the device that it has line control.



Definition

Configurable Outputs: Build

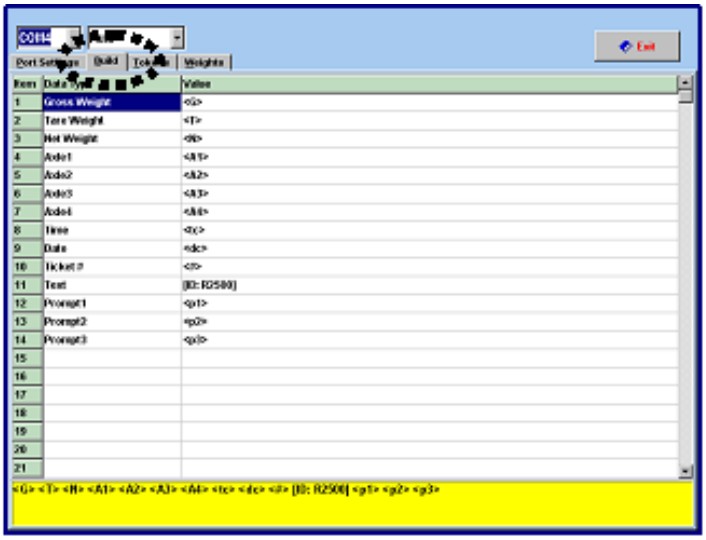
Defines the **Output String** format.

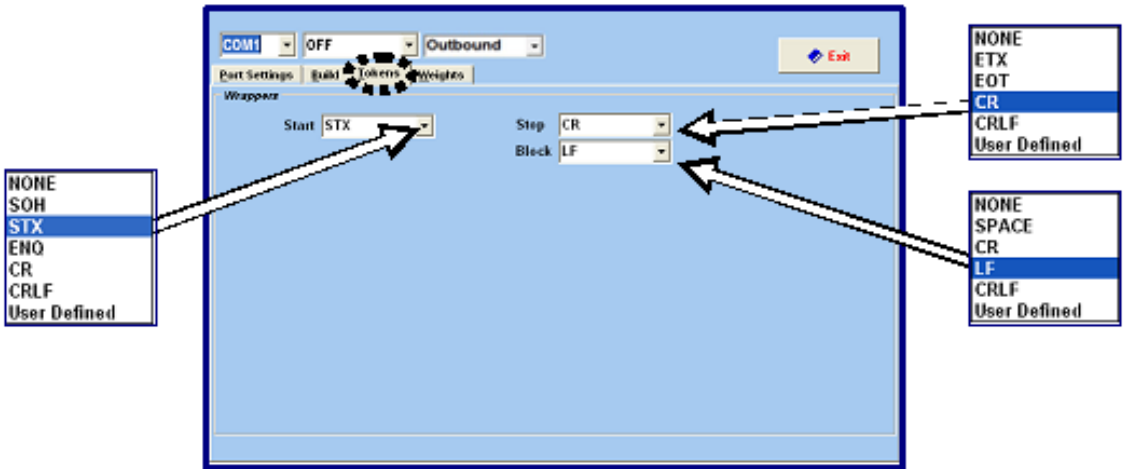
1. Click on the **Data Type** block to see the list of **Data Items** to select from.
2. Scroll through using the **Up** and **Down** arrow keys.
3. Select the data item to **Add** or select **Remove** to delete item.
4. Selecting **"Text"** allows for fixed text to be added to the **"Value"** block in the **Output String.**

Configurable Outputs: Tokens

Defines the beginning character(s) (**Start**), ending character(s) (**Stop**), and data item separator character(s) (Block) of the **Output String.**

- ✓ **Start Default = STX**
- ✓ **Stop Default = CR**
- ✓ **Block Default = LF**





Definition

Configurable Outputs: Weights

Formats the appearance of **Weight Output Strings.**

Weight Digits – The number of digits in the **Weight Output String.**

Justification – Determines whether the numbers line-up on the left or the right.

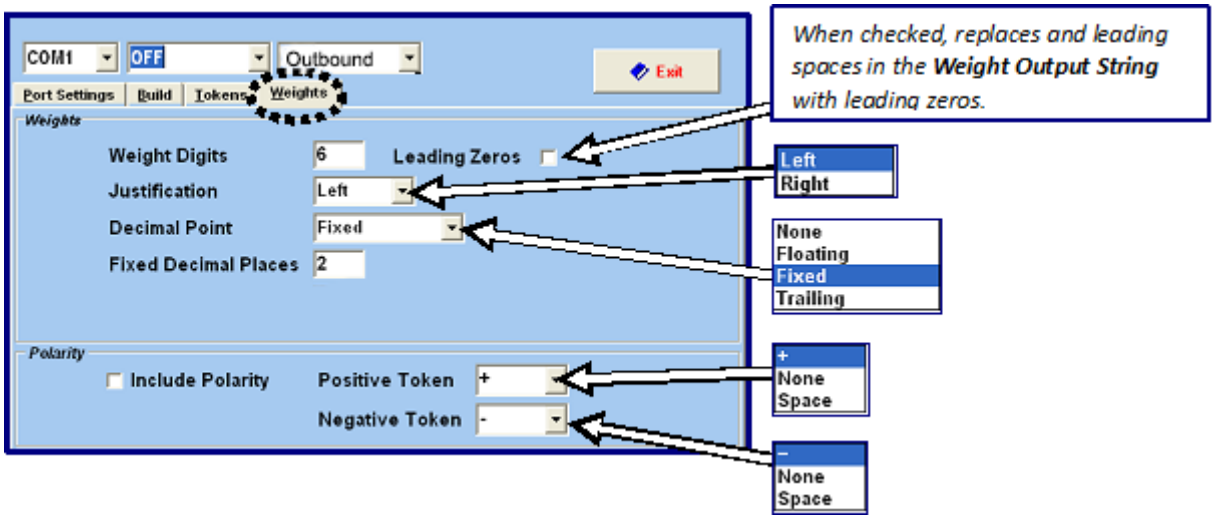
Decimal Point – Sets whether the **Decimal Point** is **None**, **Floating**, **Fixed**, or **Trailing**.

Fixed Decimal Places – If **"Fixed"** was the previous selection, this sets the number of digits to the right of the decimal point.

Test Weight – Sets the test amount when the scales are being manually calibrated (***not used***).

***Polarity* –** Controls whether or not the **Weight Output String** includes a **Priority Character** and what that character is for positive and negative weight values.

— Checking the box ***includes*** this feature.

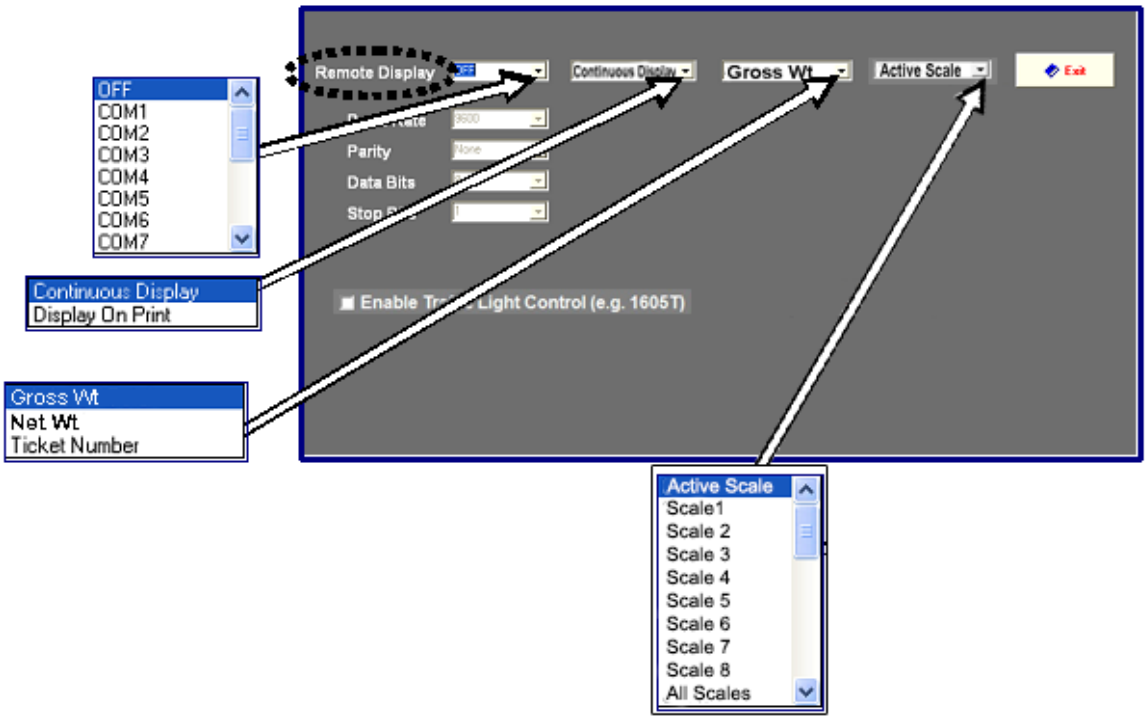


Definition

3.7.15. Remote Display

Formats the settings for **Output** to the **Remote Display.**

- — **20mA Output** requires serial expansion card to be installed
- ✓ **COM Port Default = OFF**
- ✓ **Default = Continuous Display**
- ✓ **Default = Active Scale**
- ✓ **Default = Gross Wt**



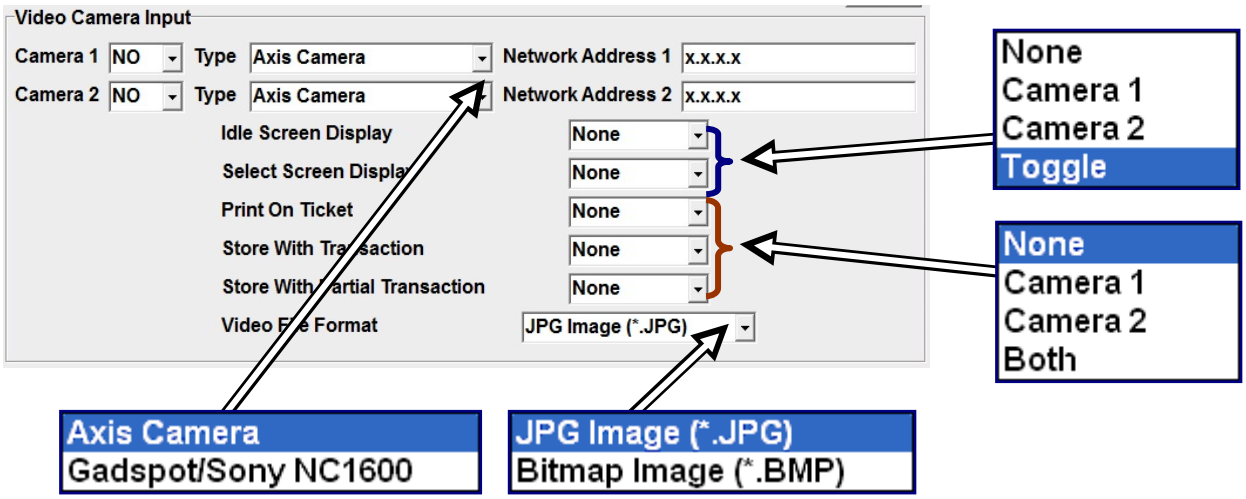
Definition

3.7.16. Video Camera Input

Formats the settings for an **Ethernet Video Camera,** when one is installed.

- Sets up to two (2) camera types and establishes their **Network Addresses**.
- Formats parameters for the camera(s).

- Only cameras ***supplied by Fairbanks Scales*** are supported with this option.

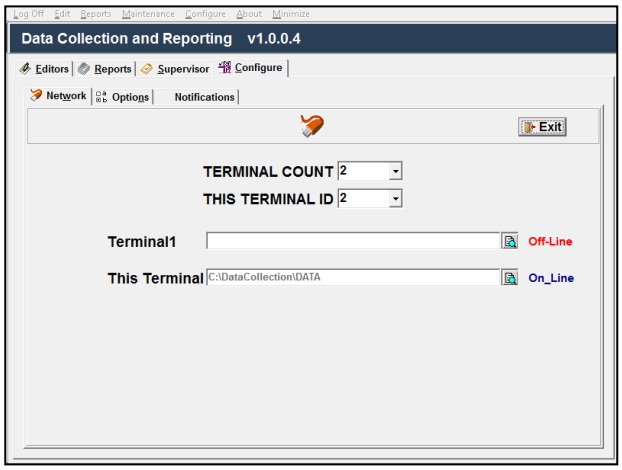


3.7.17. Video Camera(s) with a Standalone FB4000

A **Switch** (p/n **26220**) is necessary when installing the Video Camera(s) to a Standalone FB4000 Indicator. This establishes a **Peer-to-Peer Network**, which ***is required*** for the two to function together.

- It is not possible to connect the two directly together using only an Ethernet connection. A Switch directs and translates the message, ***and is required***.
- The **Camera** has only a **Ethernet Port**. Because of this, using either a **laptop computer** or a **USB CD Drive** for the **Installation Software** is necessary.
- The **Camera Installation Software** allows a **Static IP Address** to be programmed into the Video Camera.
- Follow Tips for Techs Issue TIP2016-01 for detailed network configuration instructions.

NOTE: *The printer must be **able to** print **images** to activate* **"Print on Ticket"** *feature.*

Definition	Window
### 3.7.18. Networked Terminals Setup Sets up the application for **Multiple Terminal Operation.** — **Terminal Count** defines the total number of terminals in the System. — **This Terminal ID** Defines the local terminal's **Terminal Number**. — Defines the storage locations for all the non-local terminal's database files (*not* **This Terminal ID**). ▪ *The* **Browse** *button helps with this entry.* — Terminals that cannot be communicated with at the selected storage locations are shown as **Off-line.** — Terminals that can be communicated with at the selected storage locations are shown as **On-line.**	

Network Terminal Setup Steps

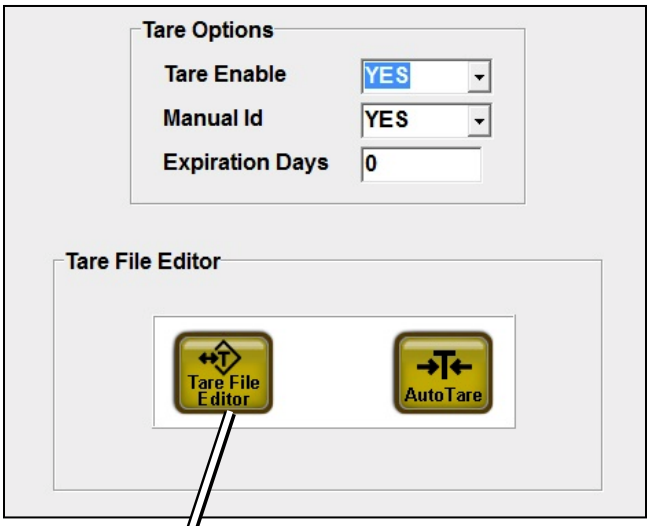
1. Select the number of terminals the System is configured for (**Terminal Count**).
2. Select the terminal number for the local terminal (**This Terminal ID**).
3. For all terminals except the local terminal (**This Terminal**), enter the storage location for each terminal's database files.
4. A **Browse** button helps with this entry.
5. Press Exit.

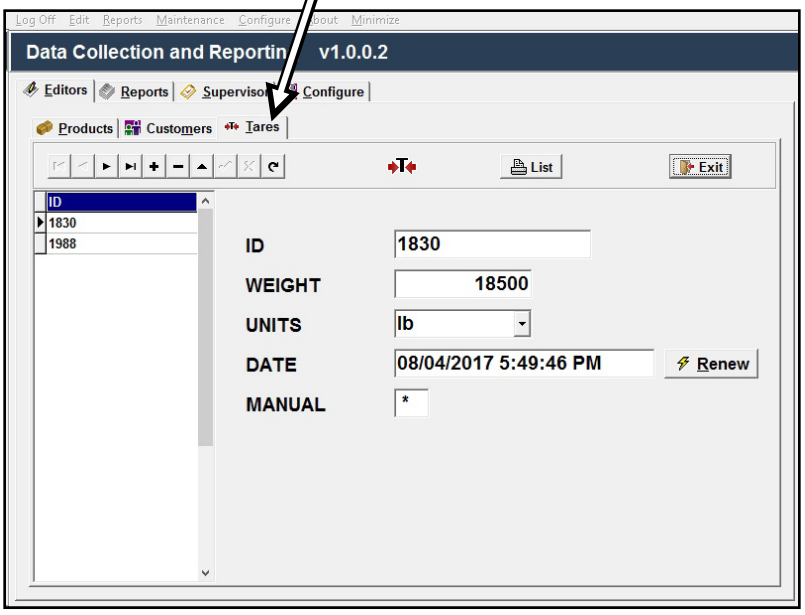
Definition	Window
3.7.19. Passwords The Highway System has two passwords. • **Configuration Password** secures the functions of the **Configuration Menu.** ✓ **Password = No characters (blank)** – The security is reset after exiting to the weight processing screen. – To clear the password, press the **Delete key.** • **Service Password** controls access to the **Password** tab. The Kernel Application, and the **Backup/Restore/Defaults** tab. **NOTE:** *All passwords are case sensitive.*	

Definition
3.7.20. Tare Options / Editor
Programs the default **Tare** settings.

Steps to setting the Tare Options

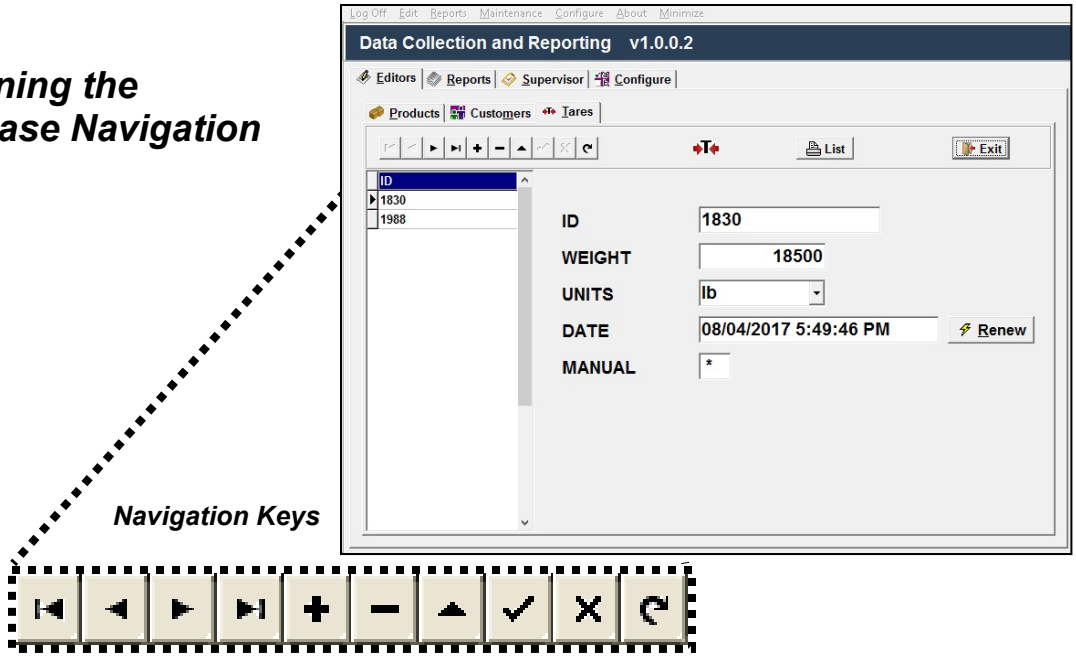
1. Select either **Yes** or **No** for **Tare Enable**.
   - This controls whether a **Tare Wt** is prompted for doing data entry.
2. Select either **Yes** or **No** for **Manual ID.**
   - This controls whether the Manual Tare ID Character "*****" is printed with the tare weight for a Keyboard entered tare.
3. Enter either **0**, or a specific number to the Tare's **Expiration Days.**
   - This sets the number of days that a Stored Tare Weight may be used.
   - After exceeding this number of days, the operator is prompted to continue to use the Tare Wt. or not.
   - A value of "0" disables this option.
4. Press the **Tare File Editor** button to create a new Tare setting or to view existing **Shared Tare Weights.**





5. Press the **Auto Tare** button to select the standard **preset Tare amount**.
   - This captures the weight on the scale to be stored in the tare file.
   - The weight is displayed and the operator is prompted to enter the **Tare ID**.

3.7.21. Defining the Database Navigation Keys

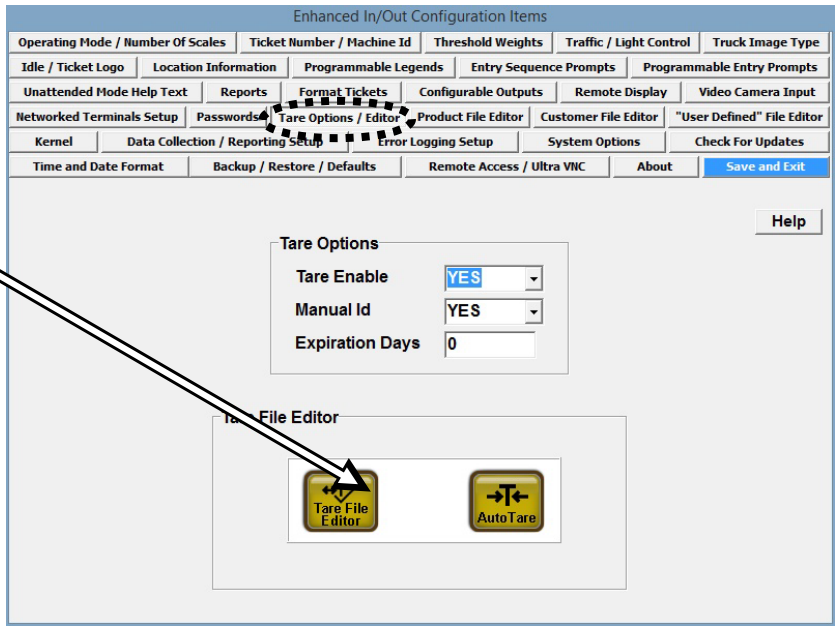


ACTION KEY	DESCRIPTION
	Moves to the **first record.**
	Moves to the **previous record** in the list.
	Moves to the **next record** in the list.
	Moves to the **last record** in the list.
	**Adds** a new record.
	**Deletes** the selected record.
	Puts the current record selected in the **Edit Mode**.
	**Confirms changes** to the displayed **record**.
	**Cancels changes** made to the displayed record and restores original values.
	**Refreshes** the displayed data from the database, in case it is changed by another operator.
	Displays and optionally prints a list of displayed records.
	**Exit** to the main **Configuration Items page.**
	**Renews** the **Stored Tare** and stamps the new setting with the current date and time.

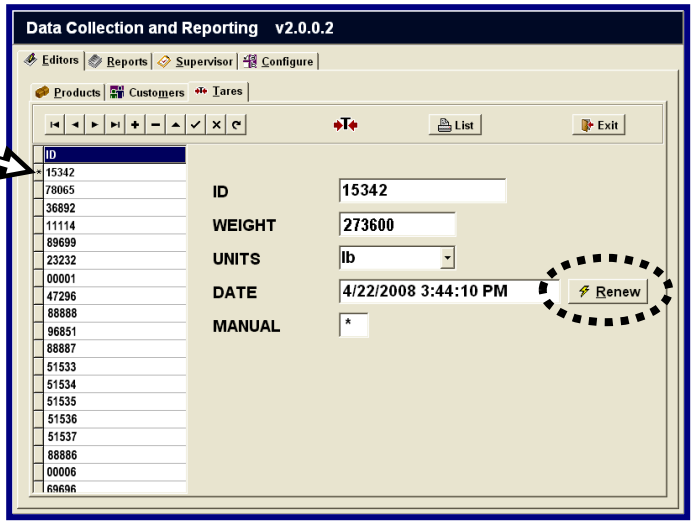
3.7.22. Steps to Entering a New Tare

Follow these steps to enter a new Tare.

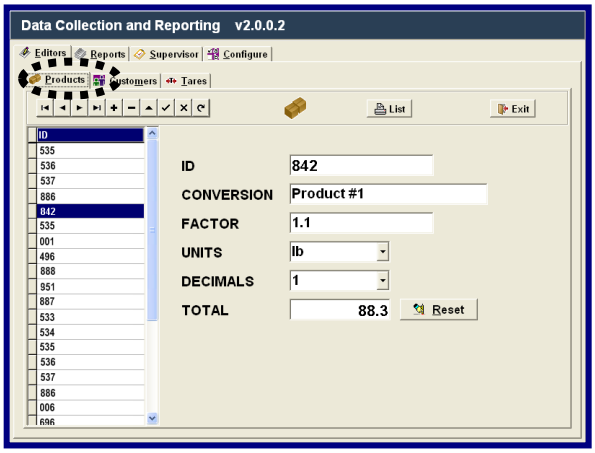
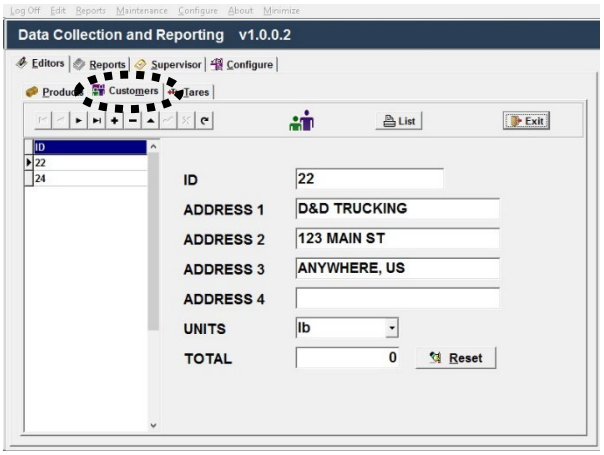
6. From the **Weight Screen**, press the home button ***on the keyboard***.
7. Open the **Tare Options / Editor** tab in the Configure Items window.
8. Press Tare File Editor.



9. In the **Tares** tab, press +.
   - A **Star** appears beside the newly made **Tare Record.**
10. Enter a numeric **Vehicle Number** in the **ID** field.
11. Enter the vehicle's **WEIGHT**.
12. Select the desired **UNITS**.
13. Press ✓ to accept all the new **Tare** information, date and time stamp the entry, and record it in the **Data Collection** database.



Press +, then enter a **Product Code** *and the other vehicle information.*

Definition	Window
### *3.7.23. Product File Editor** Creates and edits **Product** files. Enter the following: 1. **Product ID**. 2. **Product CONVERSION**. — Legend for the result of the **Net Wt.** multiplies by the **Factor** (i.e. bushels). 3. **Product FACTOR.** — Value is multiplied by the **Net Wt.** to calculate the conversion. 4. **Product UNITS** in **lb** or **kg.** 5. Number the **DECIMAL** places to print the conversion. 6. **TOTAL** amount of conversion weighed since last pressing [Reset].	
### *3.7.24. Customer File Editor** Inputs and edits **Customers** files. Enter the following: 1. **Customer ID**. 2. **Customer ADDRESS 1** thru **4**. 3. **Customer UNITS** in **lb** or **kg.** 4. **TOTAL** amount of pounds weighed since last pressing [Reset].	

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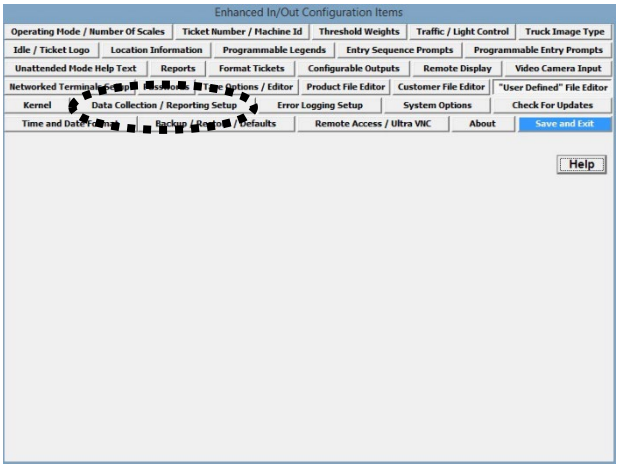
3.8. Data Collection & Reporting: Configuration Menu

The **Data Collection & Reporting Configuration Menu** is a very important tabbed window to the **Enhanced I/O System Program**. It allows access to elements of the application, including the **Database Editors, Reports, Maintenance, Configuration and Help Options.**

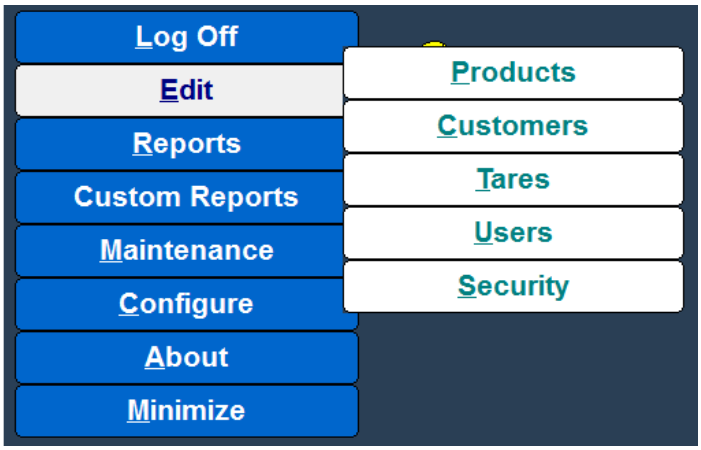
Follow these steps to access the **Data Collection & Reporting Configuration Menu.**

1. While in the **Weigh** screen, press the **Home** button on the external keyboard.

2. Select the **Data Collection & Reporting Setup** tab.



3. Select **Edit**, scroll right and select **Security**.



NOTE: *The following description frames detail each of the six formatting functions* **(Products, Customers, Tares, Fees, Security, and Users)** *in the order of top tabs in the opened window. Each one can also be accessed using the method shown above.*

Definition
3.8.1. Data Collection & Reporting: Supervisor
— Sets up security limitations for the management functions of the **Enhanced I/O System Program.**

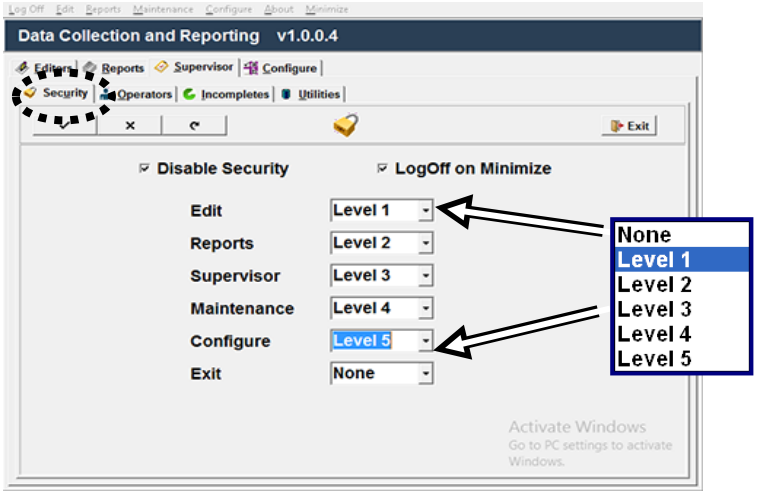
3.8.1.1. Data Collection & Reporting: Supervisor – Security tab

SETTINGS

= **Accept** the changes.

= **Delete** the changes.

= **Refresh** the displayed data from the database, in case it is changed by another user.



Disable Security checkbox – Turns off the **Security Feature** entirely.

C A U T I O N

Disabling the Security Feature allows all personnel types full access to any of the management functions, possibly causing irreparable, untraceable problems within the Enhanced I/O System Program!

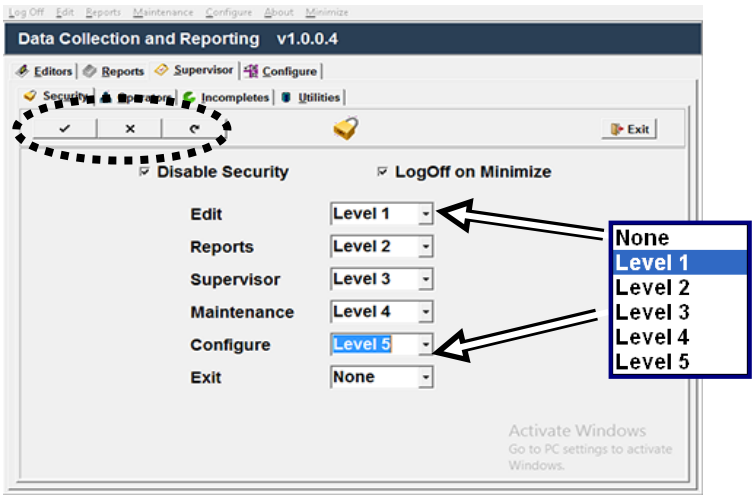
LogOff on Minimize checkbox – Logs the user off whenever he or she minimizes the program.

3.6.1.1. Data Collection & Reporting: Supervisor – Security tab, Continued

Setting the Security Levels

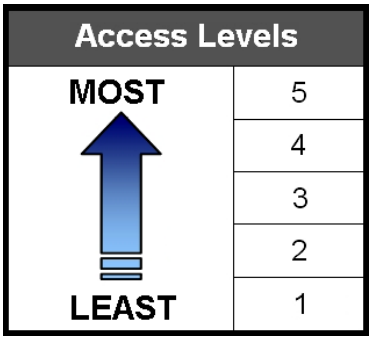
4. Edit any of the **Security Levels** by left-clicking on the drop-down menu arrow.
5. Scroll down to the appropriate level for the user's function, then left-click on the selection.
6. Press ✓ to **accept** the new.

   setting, or ✕ to **cancel/reset** it.



Security Levels 1 thru 5 – Configures the hierarchy of the management functions, and limits privilege accesses from unauthorized employees.

- When making the employee hierarchy, employee duties should determine their security level.
- Each access level includes all of the rights of any access level(s) below it.

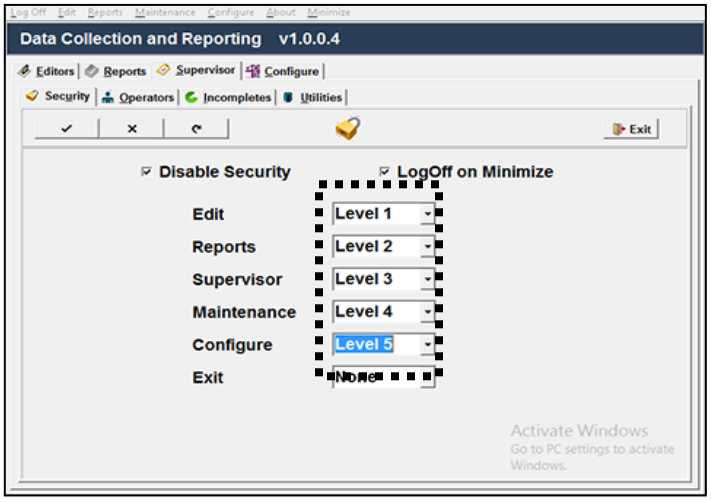


Enhanced I/O Security Level Configuration

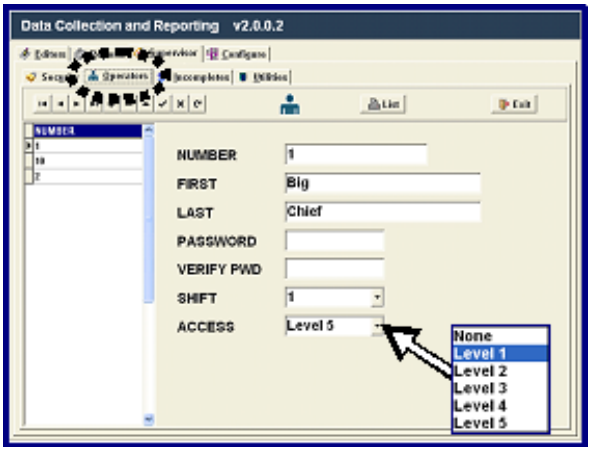
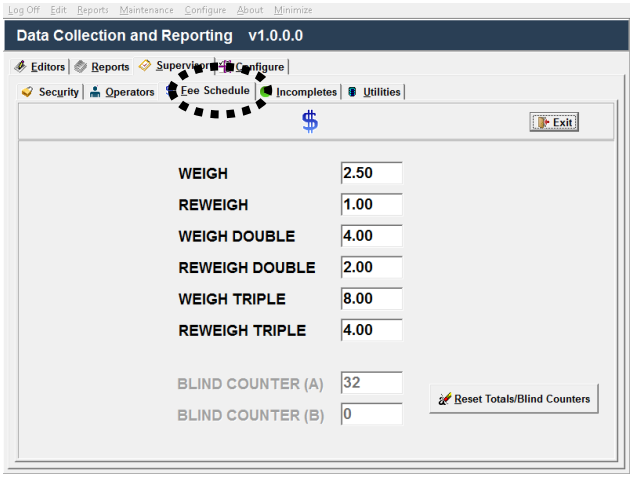
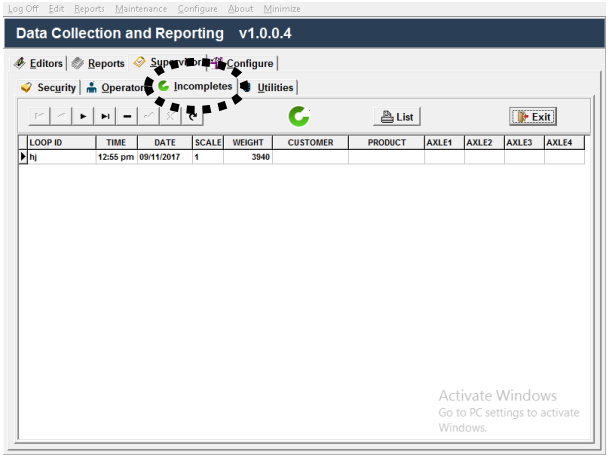
Level	Function	Ability
1	**Operator**	Restricted access capabilities to no higher than performing weighments, monitoring trucks and drivers, and printing tickets.
2	**Supervisor**	• Restricted access capabilities to no higher than monitoring and controlling employees' activity, then to generating **Status Reports**. • Allows inputting **Customer** and **Product Data.**
3	**System**	Restricted access capabilities to no higher than generating and altering the a **Ticket Format**, monitoring the **System Operations**, adjusting **System Settings**, and to **troubleshooting** the Enhanced I/O System Application.
5	**Kernel**	Restricts access capabilities to no higher than the underlying **Kernel Program**, the Weighment Application that drives the Enhanced I/O Scale System.
5	**Calibration**	Restricts access capabilities to no higher than the **Calibration Process.**

3.6.1.1. Data Collection & Reporting: Supervisor – Security tab, Continued

NOTE: *Each access level includes all of the rights of any access level(s) below it.*

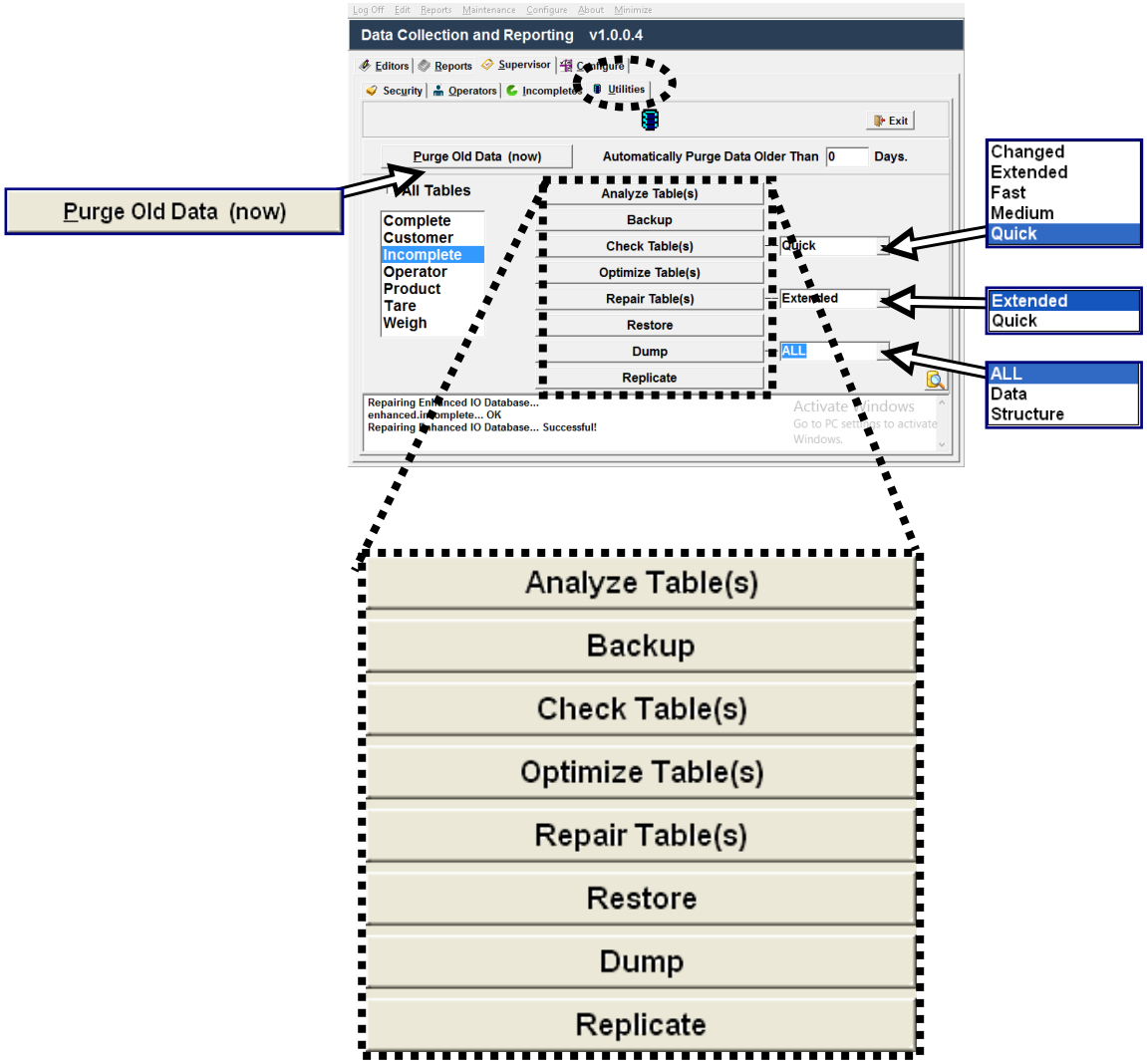


Function	Ability
Editor	Sets the accessibility limits for the **editing** functions within the **Data Collection & Reporting Application**, along with the **Kernel Application Settings**.
Reports	Sets the accessibility limits for manipulating the different **Reports.**
Supervisor	Sets the accessibility limits for the **Supervisor Functions.**
Maintenance	Sets the accessibility limits for **Maintenance functions** within the **Data Collection & Reporting Application**, along with the **Kernel Application Settings.**
Configure	Sets the accessibility limits for **Configuration functions** within the **Data Collection & Reporting Application**, along with the **Kernel Application Settings.**
Exit	Sets the accessibility limits to **shut down** the **Data Collection & Reporting Application**, along with the **Kernel Application Settings.**

Definition	Window
3.8.1.2. Data Collection & Reporting: Supervisor – Operators tab Inputs and edits **Operator** files. Enter the following: 1. Operator ID **NUMBER**. 2. Operator's **FIRST** name. 3. Operator's **LAST** name. 4. Operator's own personal **PASSWORD.** 5. Re-enter the operator's **PASSWORD.** 6. Operator's **SHIFT** period 7. Operator's **ACCESS** Level.	
3.8.1.3. Data Collection & Reporting: Supervisor – Fee Schedule tab	
3.8.1.4. Data Collection & Reporting: Supervisor – Incompletes tab Displays a list of Incomplete/Inbound Weighments. In an **Inbound/Outbound Weighment**, the driver completed the first weighment, but has not followed-through with the second one to complete the transaction. Click on the transaction and then click " – " to delete.	

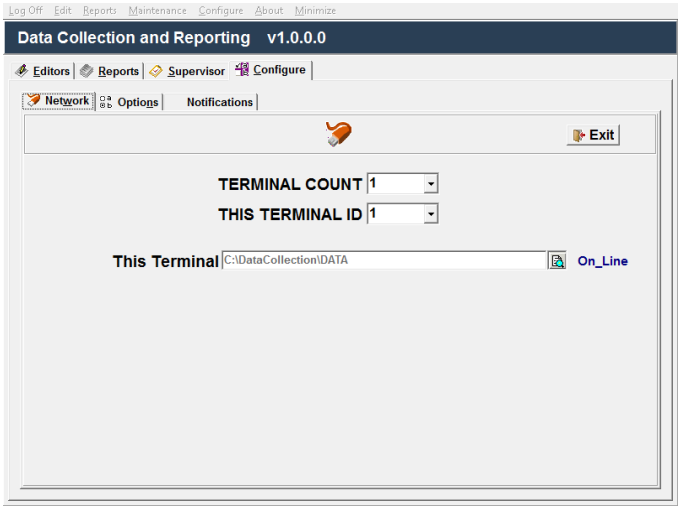
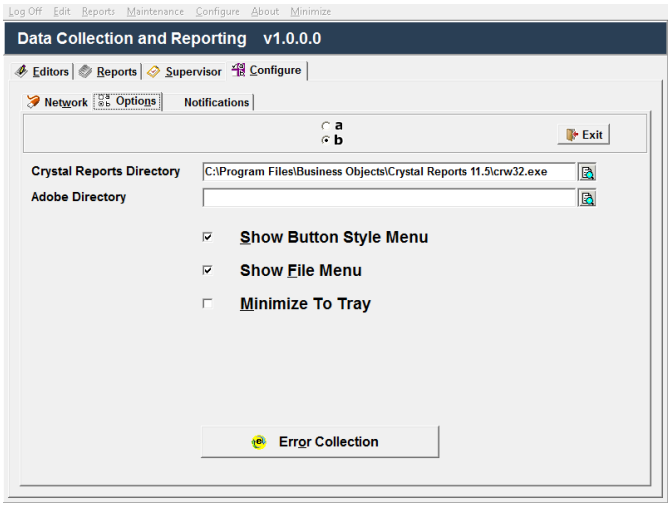
* *Refer to* **3.5.19. Tare Options/Editor** *for descriptions of the* **Navigation Keys.**

Definition	Feature
3.8.1.5. Data Collection & Reporting: Supervisor – Utilities tab	**Purge Old Data (now)** – Deletes transactions older than the "**Automatically Purge Data Older than [ ] days**". — Saves hard drive space. **All Tables Check Box** – Manipulates all the tables to match and update the changes being made. *(All **Utility Buttons** are defined on following the page).*



3.6.1.5. Data Collection & Reporting: Supervisor – Utilities tab, continued

BUTTON	FUNCTION
Analyze Table(s)	Analyzes and stores the key distribution for the table(s.
Backup	Backs up the table(s) to a selected folder.
Check Table(s)	Checks the table(s) for errors. **Changed –** Only check tables which have been changed since last check, or have not been properly closed. **Extended –** Do a full key lookup for all keys for each row. This ensures that the table is 100% consistent. • *This process takes longer to complete.* **Fast –** Only checks tables which have not been properly closed. **Medium –** Scan rows to verify that deleted links are okay. This also calculates a key checksum for the rows and verifies this with a calculated checksum for the keys. **Quick –** *Doesn't scan the rows to check for* wrong links.
Optimize Table(s)	Used to deleted a large part of the table(s), or to make many changes to a table with variable-length rows.
Repair Table(s)	Repairs a possibly corrupted table. **Extended –** MySQL creates the index row-by-row, instead of creating one index at a time with sorting. This *may be* better than using the sorting function on fixed-length keys, especially on long **CHAR keys** that compress very well. **Quick – MySQL** tries to repair only the index tree
Restore	Restores the table(s) from the backup that was previously made with **Backup**.
Dump	Generates the **SQL script** for the **Enhanced I/O Database**. **Structure –** Generates a SQL script containing the *DB structure only.* **Data –** Generates a SQL script containing the *data only*. **All –** Generates a SQL script containing *both structure and data.*
Replicate	In a networked environment, the user will encounter a series of prompts allowing the local database to be replicated. **Note:** *This **deletes all data** on the selected remote FB4000 and replaces it with a copy of this unit's database.*
	The **Search Button** expands/limits the activity displayed in the **SQL Monitor** (the memo field at the bottom of the page).

Definition	Window
### *3.8.1.6. Data Collection & Reporting: Configure – Network tab* Sets up the application for **Multiple Terminal Operation.** — **Terminal Count** defines the total number of terminals in the System. — **This Terminal ID** defines the local terminal's **Terminal Number**. — **Terminal 1** (**Off-Line**) are terminals that cannot be communicated with at the selected storage locations. ▪ *Status indicator of whether the described item is* **Online.** — **This Terminal** (**On_Line**) are terminals that can be communicated with at the selected storage locations. ▪ Status indicator of whether the described item is **Offline.**	
### *3.8.1.7. Data Collection & Reporting: Configure – Options tab* **Crystal Reports Directory –** Maps the location for the **Crystal Reports [.exe] file.** **Show Button Style Menu –** Displays a **big button style menu** on the main screen of the Data Collection & Reporting Application. **Show File Menu –** Displays a Windows® style file menu along the to edge of the screen. **Minimize To Tray –** Places the **Data Collection and Reporting Application** into the **System Tray** so it is active, but hidden. — If this is ***not selected***, it is available in the Task Bar. Error Collection **–** Opens the **Error Logging Setup** (*see following two pages*)**.**	

3.6.1.7. Data Collection & Reporting: Configure – Options tab, continued

Definition Window

Error Logging Setup

The **Error Notification Application** receives error conditions (*in the form of the latest* **Blat.DLL),** from the **Kernel Application**, the **Enhanced I/O System Application**, and the **Data Collection & Reporting Application**.

The Error Notification Application is initiated by the Enhanced I/O System Application.

- It runs indivisibly in a minimized position until it is needed, like a guard dog.
- The application can be configured to search multiple locations for errors, define e-mail recipients and servers and be used to modify/add errors.
- The **User Interface** is always available for configuring or modifying the application settings, and for any maintenance or needed program upgrades.

Each error message can be reported to **up to eight (8) recipients.**

- The configuration fields for each recipient include the following elements.
  - **Mail Server**
  - **Username**
  - **Password**
  - **From**
  - **Subject**
- An additional parameter controls whether a message is displayed when an error is e-mailed.

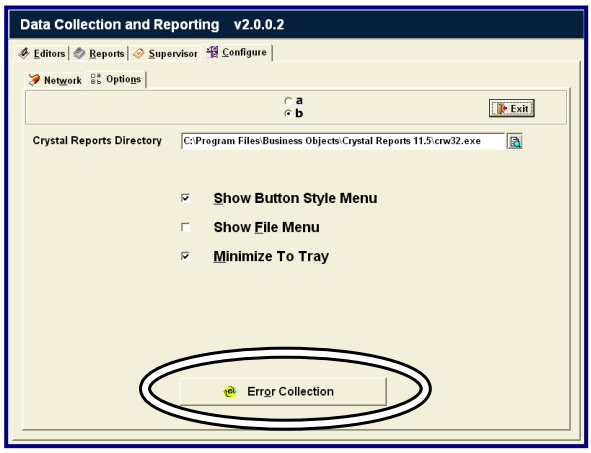
The **Weigh Kernel Application, Enhanced I/O System User Interface Application**, and the **Data Collection & Reporting Application** each have a list of predefined error conditions that report.

- Default errors can be modified to better define how it is dispersed. i.e. Each error can be enabled/disabled, set to trigger only after a specific interval has passed, filtered (a specific error might contain information about multiple devices that could force the interval to be ignored if filtered). The error text and/or subject can also be changed.
- Error conditions transfer to the **Error Notification Application** through a shared folder and files on the instruments hard drive.
- Each error condition is stored as a single file.
- The file name consists of a description that identifies the error, followed by any additional information specific to the error.

3.6.1.7. Data Collection & Reporting: Configure – Options tab, continued

Generating, Viewing or Editing an Error Message

This programs a new error possibility to the list of others that are emailed as notifications to the formatted recipients.

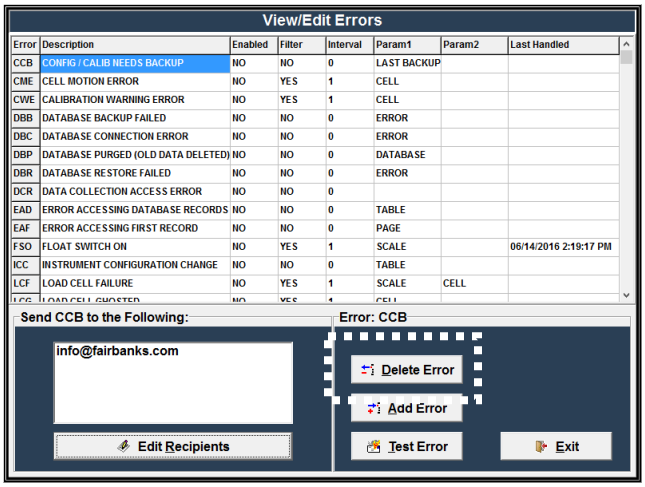


7. Press  in the **Data Collection and Reporting / Options** Tab.

8. Press the **View/Edit Errors** button.

The **View/Edit Errors** window configures the following:

- **Delete Error**
- **Add Error**
- **Test Error**
- **Edit Recipients** (of notification email)



3.8.1.8. Deleting an Error

1. Highlight the error in the **Description** field.
2. Press 

3. Confirm the deletion when asked in the pop-up window.

Adding an Error

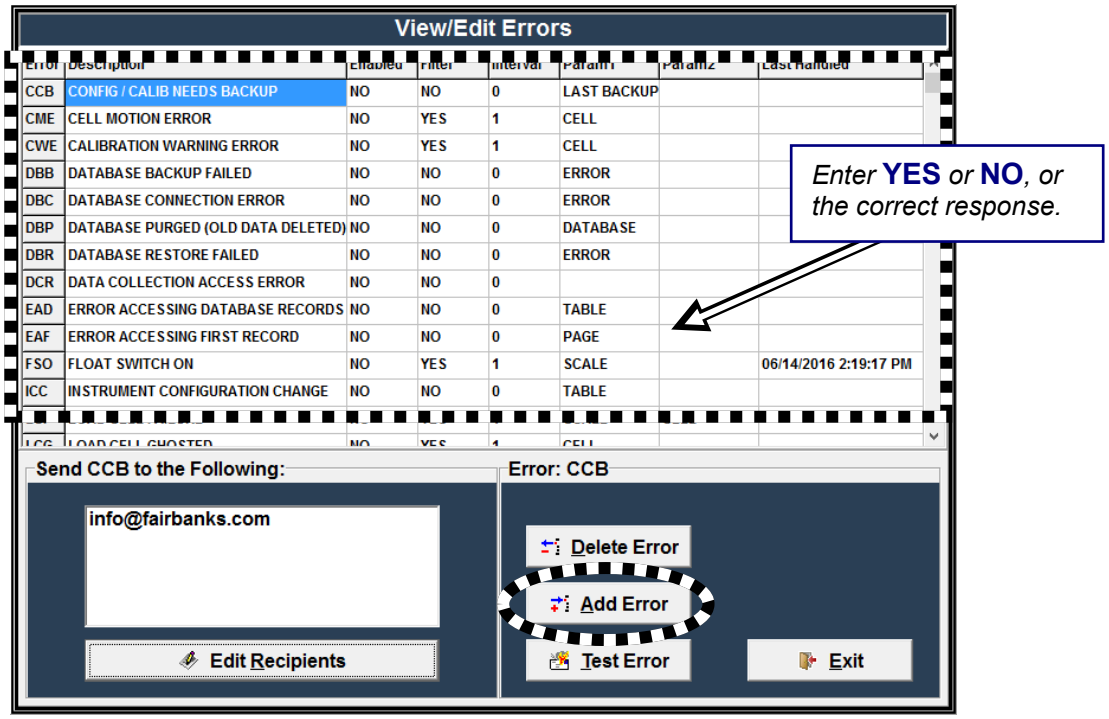
4. Click 

.

5. In the pop-up window, **"Enter [a] three character code"** for the new error.
   - A new row will generate (in blue) within the spreadsheet window.

6. Enter **YES** or **NO**, or fill in the correct response into each of the fields.

FIELD	DESCRIPTION
Error	Three (3) letter abbreviation for the error.
Description	Text sent in email notification that defines the error.
Enabled	If disabled ("NO"), the error is ignored and not sent.
Filter	If filtered, ignore the error interval if the error contains information about a different device than that found in the previous same error.
Interval	If "0", the error is sent every time it is found, otherwise the error is sent the first time it occurs and then again at the specified interval should the error persist.
Param1	Defines the information found in the error. Errors contain 0,1 or 2 parameters.
Param2	Defines further the error information found, if two **Params** are included in the error.
Last Handled	Date and time the error was accessed.
Sent "Error" to the Following	Highlight any recipients to receive the selected error

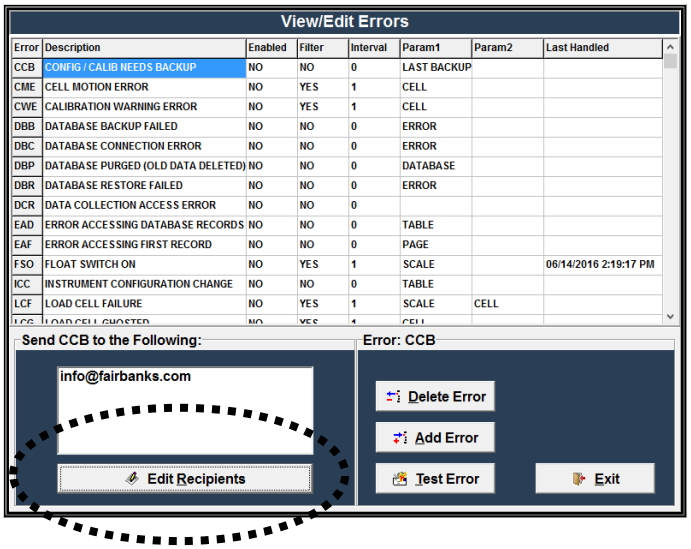


3.8.1.9. Edit Notifications

Error Collection: Editing A Recipient

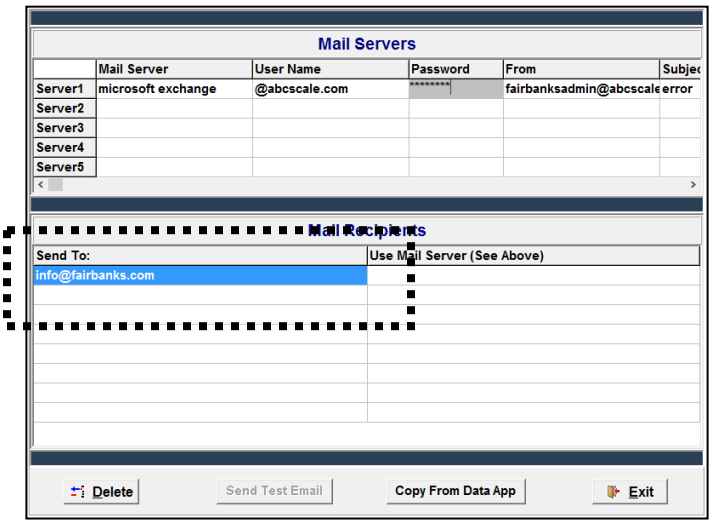
Only the user defined errors can be deleted.

7. Highlight the recipient in the **"Send SCC to the Following:"** field.
8. Press [Edit Recipients] .
   - Can also be accessed by pressing **Error Notifications** using the **Error Collections buttons.**
9. Either highlight the appropriate **Mail Server** for the **Recipient**, or input the necessary information about the **Mail Server** where the email address originates.
   - A server must be selected for the recipient to receive the email notification.
10. In the **"Send To:"** field, enter the recipient's email address.
11. Press the **Enter** button on the external keyboard.



Error Collection: Testing an Error

Press [Test Error] to send a test email to all the recipients.

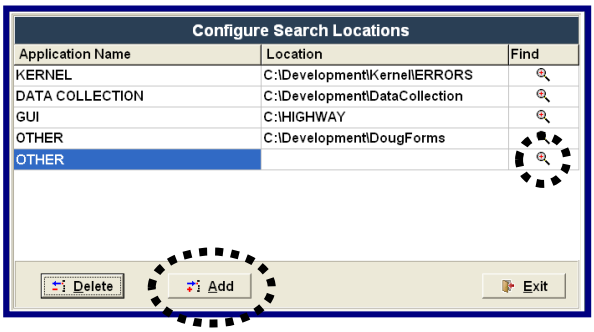


3.8.1.10. Configuring a Search

This configures the location where each of the error messages are stored.

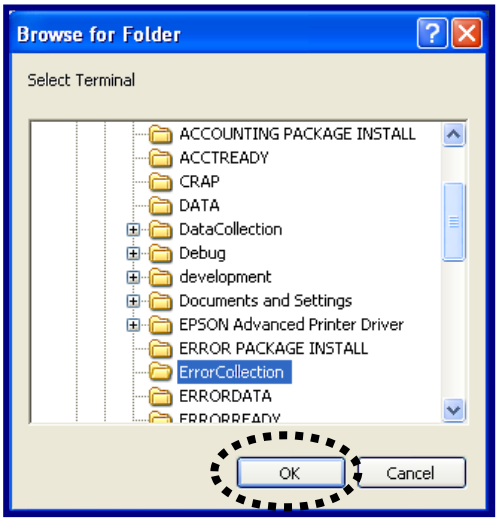
The **Error Notification Application** searches these locations for error conditions to report.

- **KERNEL**
  - **C:\kernel\errors** folder
- **DATA COLLECTION**
  - **C:\datacollection\errors** folder
- **GUI**
  - **C:\FB4000_EnhancedIO\errors** folder



A new **Application Folder** can be generated and used by clicking Add, and then pressing .

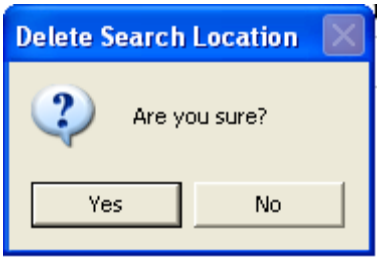
- The new address appears in the **Location** field.
- Press Add.
- Press Exit.



3.8.1.11. Deleting a Search Location

12. To delete a Search Location, highlight the **Application Name**.
13. Press Delete.

Press Yes to confirm.



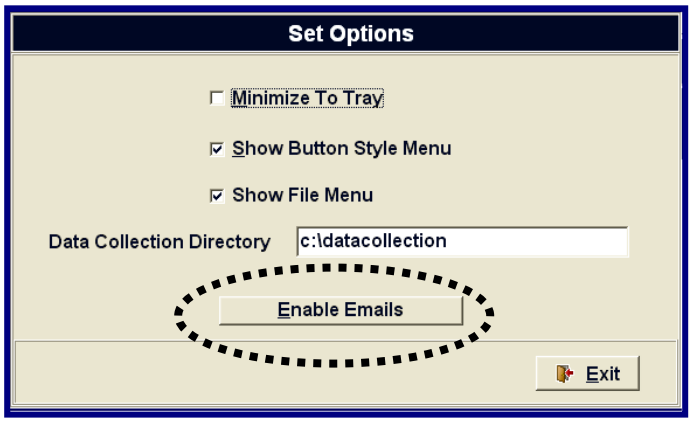
3.8.1.12. Options

The **Set Options** selection formats the following choices.

- **Minimize To Tray** – The checkbox positions the **Error Collections Window** into the **System Tray** at the bottom of the screen, instead of in the **Task Bar.**
- **Show Button Style Menu** – Buttons appear on **Main Form** to access user functions.
- **Show File Menu** – A **File Menu** appears on **Main Form** to access user functions.
- **Data Collection Directory** – Formats the **Data Collection folder** where the files are placed.

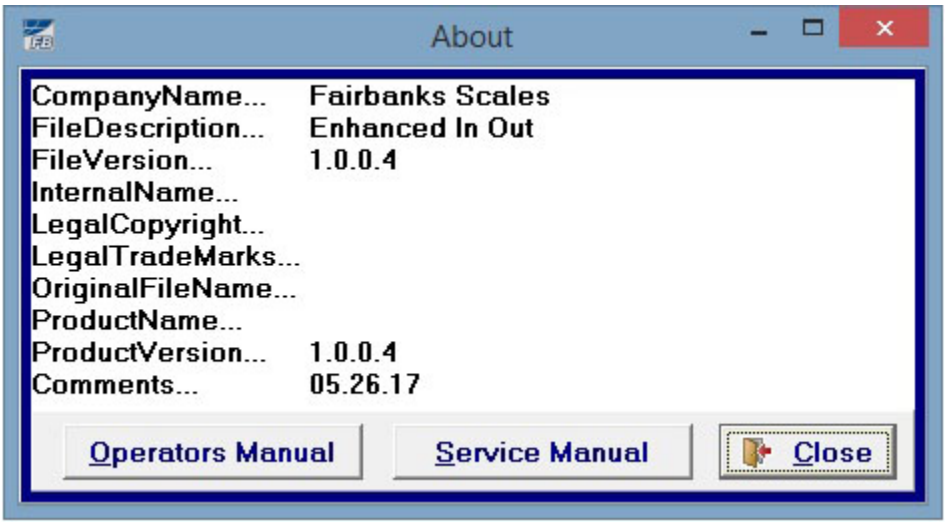
Enable Emails – Allows the **Notification Emails** to transmit.

- After pressing this button, this option disappears.



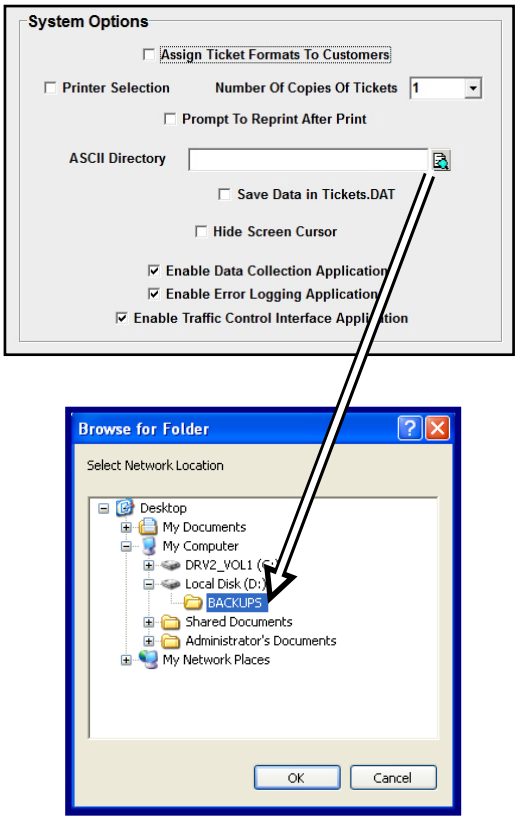
3.8.1.13. About

- The **Help** button displays the Program information.
- It is the access to the **Operators Manual** and to the **Service Manual**.



3.8.1.14. Minimize

This minimizes the editing feature to the **Task Bar** behind the **Enhanced I/O System Application Window.**

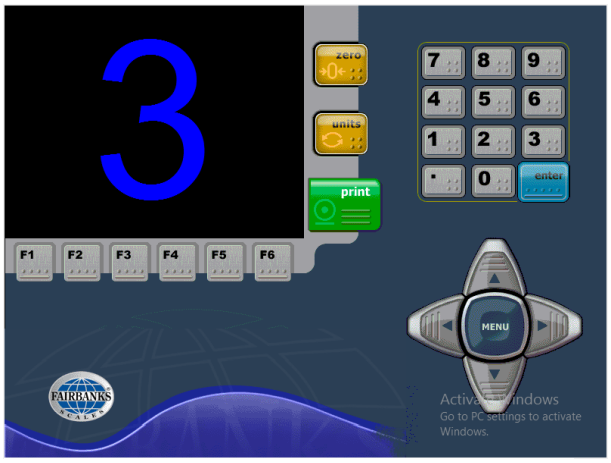
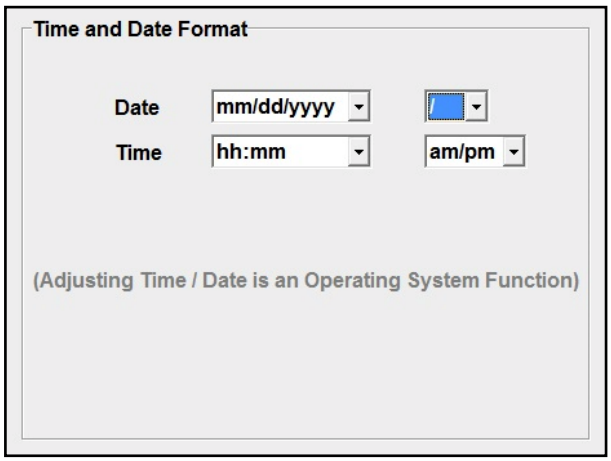
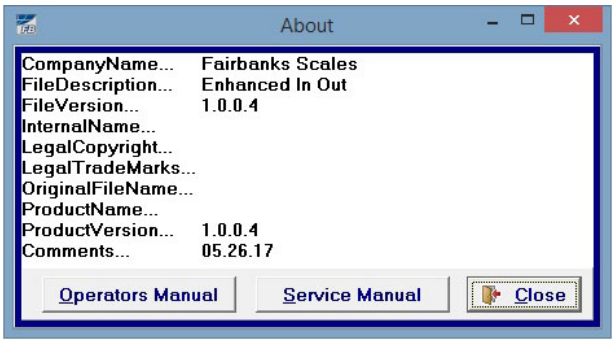
Definition	Window
## 3.8.2. System Options **Check Boxes** — **Assign Ticket Formats to Customers –** Allows various ticket formats to be used for different customers. — **Printer Selection –** Allows for a choice of printers when printing weigh tickets. — **Number of Copies of Tickets –** Allows for 1 - 5 copies of tickets to be printed for each transaction. — **Prompt to Reprint After Print –** Asks if you want to print an additional ticket after clicking print. **ASCII Directory** — Either enter the **File Location,** or click  to **Browse for** [the] **Folder**. **Check Boxes** — **Save Data in Tickets.DAT –** Writes information into file. • If a directory entry exists, all transaction will be written to files in it using the **"Ticket Number".DAT** as the file name. • If **Save Data in Ticket.DAT** is checked, all transactions are written/appended to that file. — **Hide Screen Cursor –** Removes cursor from view • Used ***only*** when the unit has the ***touch-screen feature.*** ✓ **Default = Enable Data Collection & Reporting Application** ✓ **Default = Enable Error Logging Application** **★★ Warning! ★★** *Checking the* **Hide Screen Cursor** *box can make computer navigating very cumbersome, and even render it* ***INOPERABLE!***	

The Enhanced I/O System Application ***can*** operate without the **Data Collection/ Reporting Application**. It can be used to ***enter data*** and ***print tickets***.

- The **DEFAULT_FEES.INI file** controls the **fee values** and the **weighment types that are enabled.**
- The **BLIND_CTR.INI file** stores the **Blind Counter Value.**
  - These files are in the same folder as the Enhanced I/O System Application.

By ***unchecking*** the **Enable Data Collection & Reporting Application box**, functionality is limited in the following ways.

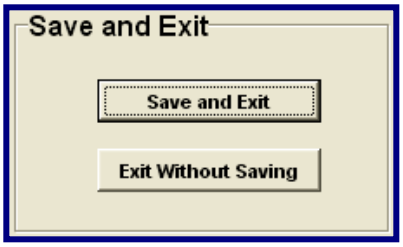
- Transactions are not stored
- No Void Ticket functionality
- No recall of Product, Customer, or Stored Tare data

Definition	Window
### 3.8.3. Check for Updates Transmits a message to the server seeking any program updates. — Loads the new reversion, when it is available. — Updates automatically, but may require a system reboot.	 *Numerous screens display while processing the program updates, until it is fully complete. (Data Collection, Error Collection, Kernel)*
### 3.8.4. Time and Date Format Programs the **Time and Date**. — Selects the format of the **Time and Date** that is displayed on the weight screens and printed on the tickets. — Selects the format of the **Time** that is shared with a completed transaction. — The format of the **Date** that is shared with a completed transaction is then tied to the **Windows® Short Date Format**. ✓ **Default = mm/dd/yyyy**	
### 3.8.5. About Displays all the current **Program Version** information. – This is especially helpful with software troubleshooting. – The **Operators Manual** button opens literature from the **C-drive *without needing a user password.***	

3.8.6. Save and Exit

Save and Exit closes the Application, saving all the new changes made to the current session.

Exit Without Saving closes the Application leaving the changes as they were before the current session.



Section 4: Enhanced Inbound/Outbound Weighing

4.1. Introduction

The **Inbound/Outbound Operating Mode** allows a vehicle to be weighed using two options.

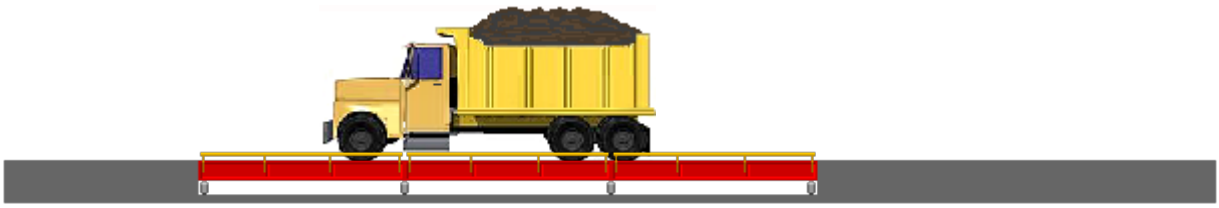
- Using the **Inbound/Outbound Mode,** the truck is weighed twice to get the actual net weight of the load.
  - One weighment with an empty load, and another with a full load, in any order.
- Using a **Stored Tare Weight**, the truck can be weighed once and have its net weight determined.

4.2. Operation Steps

1. The Scale is set at "**00**". If not, press 

.
   - The instrument displays the **Idle/Inactivity Screen**.
   - The traffic light is **GREEN**.

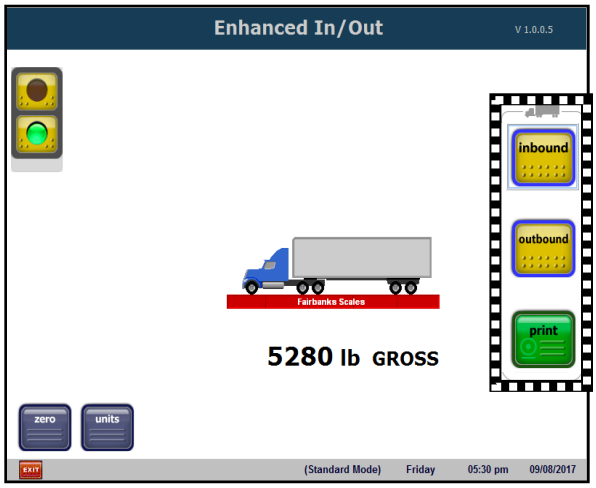
2. A truck drives onto the scale, and the scale exceeds the **Initial Weight** value.
   - The instrument then displays the **Weigh Screen**.
   - The instrument waits for the weight on ***Section One*** of the scale to reach the **Final Weight** value.
   - The traffic light turns **RED**.
   - The Instrument then displays the **Weighment Type Selection Screen**.



*An **Inbound Weighment** can be either a full or empty load.*
It Is the first weighment of a two-step process.

4.2. Operation Steps, Continued

3. Select the **Inbound, Outbound,** or the **Print** button.
4. Pressing **Print** indicates this a basic, single step **Gross/Net/Tare Weighment** of the truck on the scale.
   - The operator is prompted to enter the required data as configured.
5. The ticket prints, and is given to the driver.
6. The **Traffic Light** changes to green, and the truck exits.



4.2.1. Processing an Inbound Weighment

1. Press 

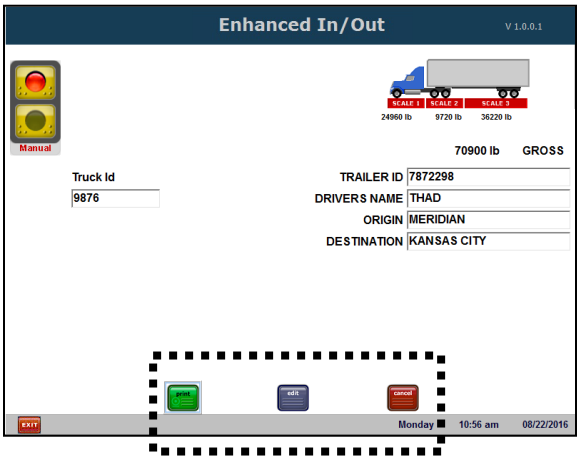
.

2. In this example, the Programmable Entry Prompts are set to **Trailer ID**, **DRIVER'S NAME**, **ORIGIN**, **DESTINATION** and **TRUCK ID**. They are setup in 3.5.11

   Enter all the Truck's information requested in the prompts.

3. Press **ENTER**

   PRINT, EDIT and **CANCEL** buttons appear.



Enter the **TRUCK ID,** *then fill in all of its fields. Pressing* **Print** *completes the transaction.*

4. Press 

.
   - The ticket prints, and is given to the driver.
   - The **Traffic Light** changes to green, and the truck exits.

   Press **Edit** to change any of the entries.

   Press **Cancel** to abort the transaction.

This message displays while

4.2.2. Adding a Product or Customer

1. If **Driver** or **Product** prompts are enabled, and input does not match any on the **Data Collection database**, one of the two pop-up windows appear.

2. For inputting the **New Entry,** press 

.

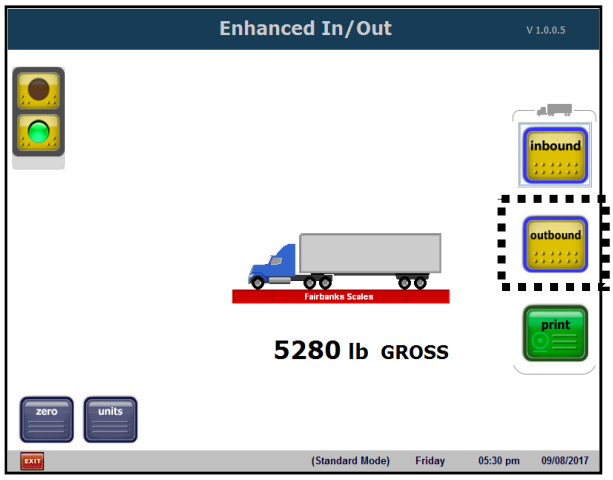
3. For a new **Product**, see *Product File Editor**

4. For a new **Customer**, see *Customer File Editor**

4.2.3. Processing an Outbound Weighment

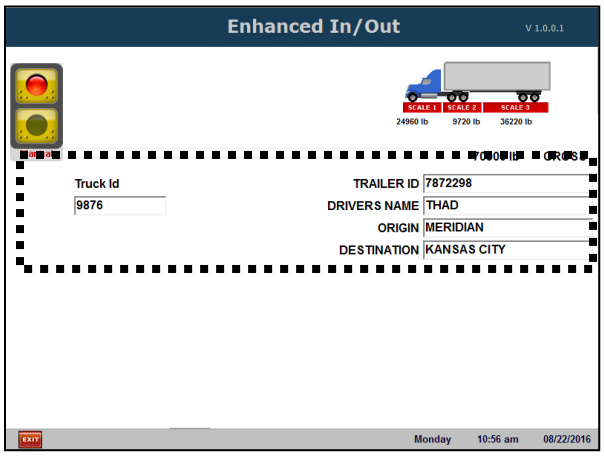
1. Press 

.



2. Enter all the Truck's information and press **ENTER**.

   In this example, the following fields are required:
   - **TRAILER ID**
   - **DRIVERS NAME**
   - **ORIGIN**
   - **DESTINATION**
   - **TRUCK ID**

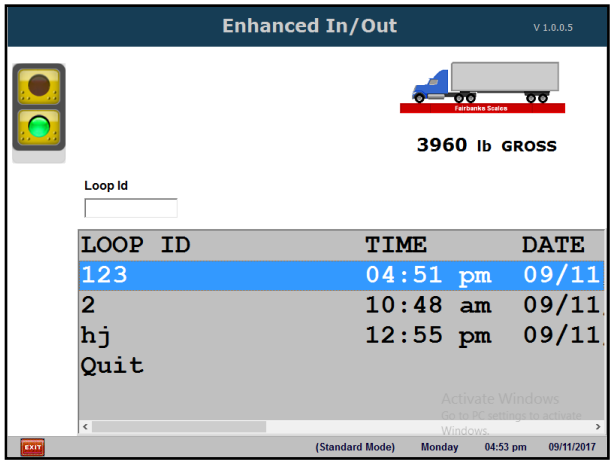


Select **Inbound, Outbound,** *or* **Print.** *The traffic light displays* **RED** *while processing a weighment.*

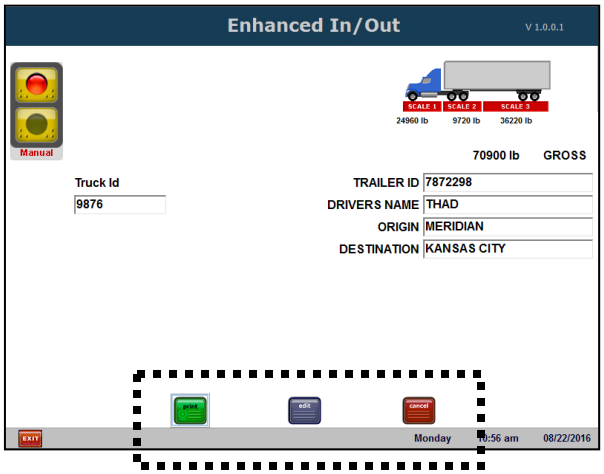
For adding new prompts or changing the current prompts,

See 3.5.10. Programmable Entry Prompts)

- Press ***F3*** to display the list of **Inbound trucks** for selection. If an invalid Truck ID/Loop ID is entered, the list of ***Inbound Trucks*** displays for selection.

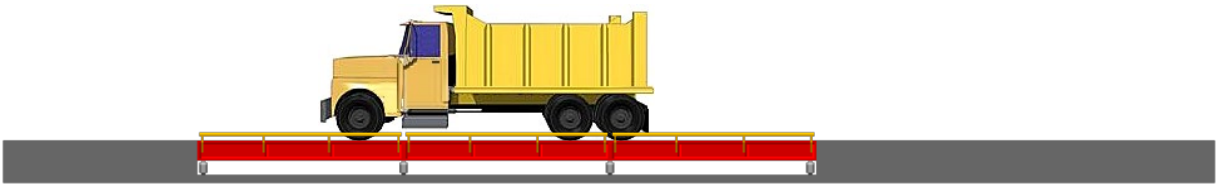


3. Press one of the following buttons.



   - The instrument prompts to **PRINT, EDIT**, or **CANCEL**.

4. Press **Print** to complete the transaction.
   - The ticket prints, and is given to the driver.
   - The **Traffic Light** changes to green, and the truck exits.
5. Press **Edit** to change and of the entries.
6. Press **Cancel** to abort the transaction.



*Whether full or empty, an **Outbound Weighment Load** is opposite from the **Inbound Load**. The difference between the two is the **Net Weight**.*

Data is stored as a completed transaction.

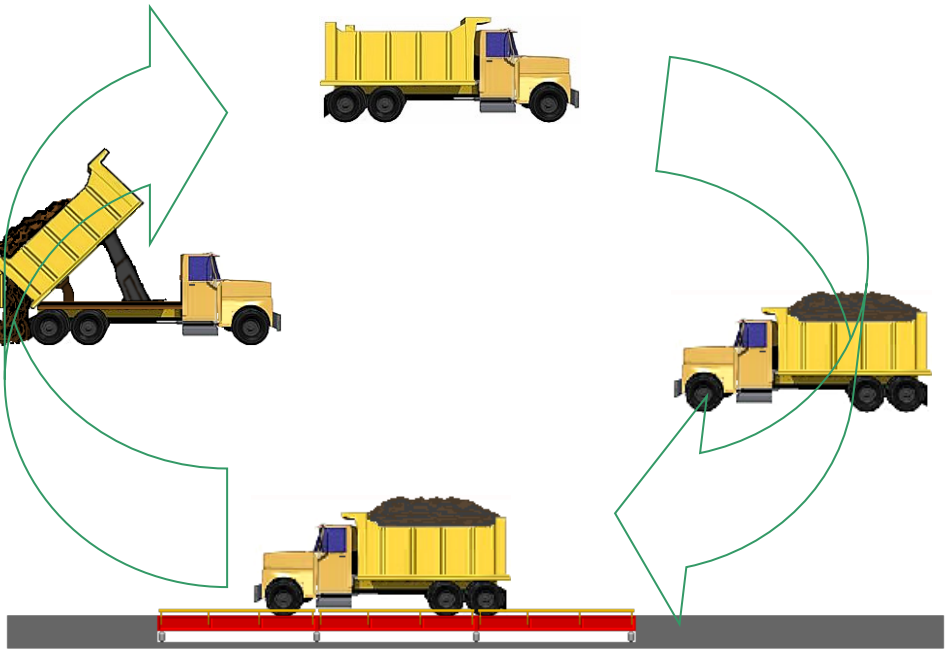
4.2.4. Using a Stored Tare Weight

For setting up a **Stored Tare**, see **Section 3.5.19**.

When using the **Stored Tare** function, the empty truck weight is known by its **Truck/Loop ID** number.

1. The empty truck makes its initial weighment, then receives a **Truck/Loop ID** number.
2. It then gets its load and goes back to the scale.
3. After entering the scale, the driver gives the operator the **Truck/Loop ID** number.
   - The previously programmed tare weight is used to calculate the truck's current **Net Weight.**

The truck leaves and empties its load, then returns later for an unlimited number of weighments, giving the operator the same **Truck/Loop ID** number.



Once the vehicle has a **TRUCK** *(or* **LOOP***)* **ID***, it can repeat the* ***loading/ weighing/unloading*** *process an unlimited number of times, using the truck's empty weight to calculate the load's* **Net Weight.**

Section 5: The Data Collection & Reporting Application

5.1. Introduction

The **Data Collection & Reporting Application** maintains the database information from the **Enhanced I/O System User Interface Application**.

- **Data Collection & Reporting Application** provides the data that generate reports.
  - It is normally minimized on the application window.
  - The database is a **MySQL Server 5.0 Application™.**
  - Customer created reports are accessible in the **Data Collection/ Reporting Application** with the default reports.

5.2. Further Description

The **Default Reports** include the following:

- **Completed Transactions**
- **Incomplete Transactions**
- **Stored Tares**
- **Product Information**
- **Customer Information**
- **Audit Report**

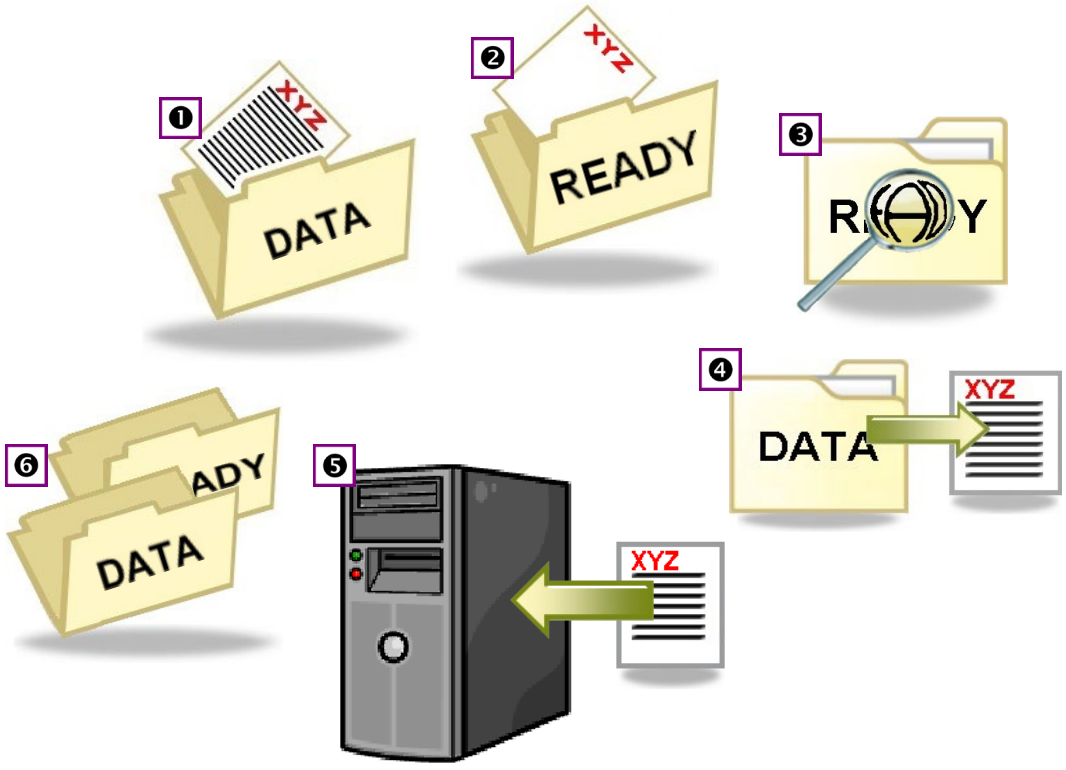
- Database Information is automatically maintained, but can also be manually adjusted.
  - The **Completed Transaction Information** can be maintained automatically using a **"Delete Data Older Than…"** setting.
  - The **Incomplete Transaction Information** is maintained automatically, but incorrect entries can also be deleted manually.
  - The **Stored Tare Information** can be maintained automatically with the use of the **Tare Expiration Days**. Incorrect or unwanted tares can also be manually deleted.
  - The **Product and Customer Information** is maintained using the editors accessed from the **Enhanced I/O System User Interface Application**. The accumulated totals can be manually reset and incorrect or unwanted entries can be manually deleted.
  - The **Audit Information** is maintained automatically, but the accumulated totals can also be manually reset.

5.2. Further Description, Continued

- For ***multiple terminal installations,*** a redundant storage model is used.
  - Each terminal has a ***complete copy of the data***.
  - Database information that needs to be copied to the other terminals is placed in **"Pickup"** directories specific to each terminal.
  - The ***receiving terminals*** control reading and deleting the information from the originating terminal.
  - If a network connection goes down, the database information to be copied to the other terminals accumulates on the ***originating terminal*** until the network connection is restored. Afterwards, the **"Pickup"** data is processed, and then the local database(s) is updated.
  - In the event of an unrecoverable error or a terminal being added, it is possible to designate one of the terminal's database information to be the **"Master Copy".** Then the information to another terminal or terminals.

5.3. File Sharing Process

1. The operator inputs data using the **Enhanced I/O System Application,** which writes that into a file in the **"Data"** folder.
2. Once it is completely finished, the **Enhanced I/O System Application** writes an empty file with the same name in the **"Ready"** folder.
3. The ***Data Collection & Reporting Application*** sees the data file written in the **"Ready"** folder.
4. The ***Data Collection & Reporting Application*** gets the data from the **"Data"** folder.
5. The data is processed, and then stored on the ***instrument's hard drive*** in the following file.
   - ✓ **C:\\Data Collection\DATA COLLECTION.GDB**
6. The ***Data Collection & Reporting Application*** deletes the files from the **"Ready"** and the **"Data"** folders.



NOTE: *All numbers on the images correlate with the steps above.*

Section 6: Inputs/Outputs

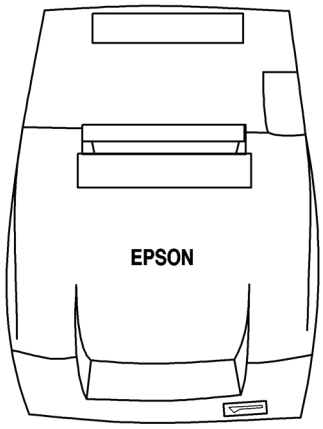
6.1. Printers

The FB4000 instrument has three (3) standard RS232 Output Ports and one USB port.

6.1.1. TM-U220 Tape Printer

- Uses **SERIAL** communication.
- Use cable **25932**.

BAUD	**9600**
PARITY	**No**
DATA BITS	**8**
STOP BIT	**1**



WIRING

Cable 25932 Wiring for COM 1-3

DB-9 INSTRUMENT	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
2	RxD	BR	2	TxD
3	TxD	R	3	RxD
4	DRT	O	6	DSR
5	SG	Y	7	SG
6	DSR	G	20	DTR
7	RTS	BL	5	CTS
8	CTS	BK	4	RTS

Cable 25932 Wiring for Serial Expansion Module*

RS232 PORT 1: COM7 XX	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
TB1**a**-2	RxD	BR	2	TxD
TB1**a**-3	TxD	R	3	RxD
TB1**a**-4	DRT	O	6	DSR
TB1**a**-5	SG	Y	7	SG
TB1**b**-6	DSR	G	20	DTR
TB1**b**-7	RTS	BL	5	CTS
TB1**b**-8	CTS	BK	4	RTS

* *Must remove the* **9-pin connector**.

6.1.1. TM-U220 Tape Printer, Continued

DIP SWITCH 1 (Serial Interface)

SWITCH	FUNCTION	ON	OFF
1	Data receive error	Ignored	**Prints "?"**
2	Receive buffer capacity	40 byes	**4KB**
3	Handshaking	XON/XOFF	**DTR/DSR**
4	Work length	7 bits	**8 bits**
5	Parity check	Yes	**No**
6	Parity selection	Even	**Odd**
7	Transmission speed	4800 bps	**9600 bps**
8	BUSY condition	Receive buffer full	**Receive buffer full or Offline**

Default settings are in bold.

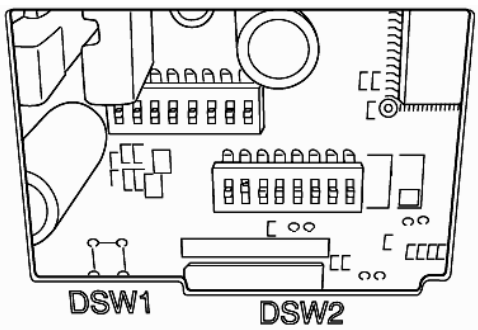
DIP SWITCH 2 (Serial Interface)

SWITCH	FUNCTION	ON	OFF
1	Print Column	42/35	**40/33**
* 2	For internal use only (auto-cutter) (do not change)	**Enabled**	**Disabled**
3	Pin 6 reset signal	Used	**Not used**
4	Pin 25 reset signal	Used	**Not used**
5	Undefined	**--**	**--**
6	Internal use only (flash memory rewriting) (Do not change)	Enabled	**Disabled**
7	Undefined	--	**--**
8	Serial Interface section	Memory Switch	**Dip Switch**

Default settings are in bold.

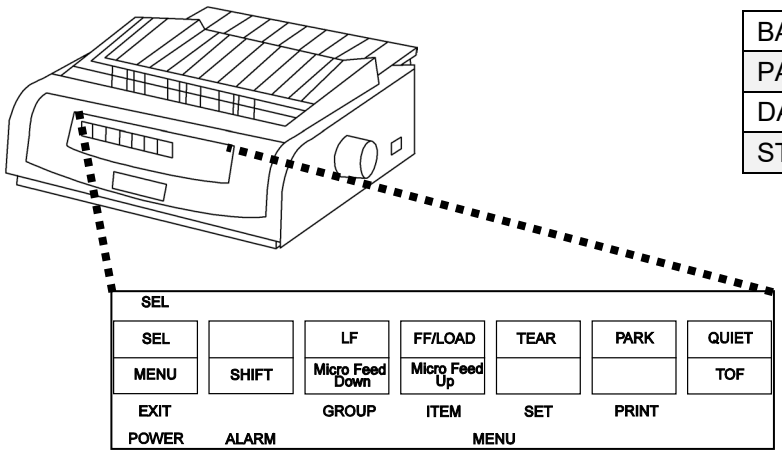
** The TM-U220 Tape Printer DAT (dk gray case, w/cutter) will have DSW2 switch #2 set to ON. TM-U220 Tape Printer (white case, no cutter) will have DSW2 switch #2 set to OFF. All other switch settings are identical between printers.*

Access the **Dip Switches** by unfastening the screw and removing the cover plate, found on the bottom of the printer.



For standard use, dip switches are factory-set correctly

6.1.2. OKI ML420 Report Printer



BAUD	**9600**
PARITY	**None**
DATA BITS	**8**
STOP BIT	**1**

- Use cable **25932** or **14807**
- For **USB** input, use cable **29827C**
- ***All*** printer settings apply to both the **Serial** and **USB** models.

CABLE 26041 WIRING for Serial Expansion Module *

RS232 Port 1: COM XX	RS232 Port 2: COM XX	RS232 Port 3: COM XX	Description	DB-25 Printer
TB1a-3	TB1b-5	TB1d-2	Transmit (Tx)	3
TB1a-2	TB1c-1	TB1d-3	Receive (Rx)	2
TB1a-5	TB1c-2	TB1d-4	Ground (GND)	7

Cable 25932 Wiring for Serial Expansion Module*

RS232 PORT 1: COM7 XX	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
TB1**a**-2	RxD	BR	2	TxD
TB1**a**-3	TxD	R	3	RxD
TB1**a**-4	DRT	O	6	DSR
TB1**a**-5	SG	Y	7	SG
TB1**b**-6	DSR	G	20	DTR
TB1**b**-7	RTS	BL	5	CTS
TB1**b**-8	CTS	BK	4	RTS

* *Must remove the* **9-pin connector**.

6.1.2. OKI ML420 Report Printer, Continued

NOTE: The **Okidata ML420** is used as both a Report Printer and a Ticket Printer.

- As a **USB Printer**, there is no need to adjust the Switch Settings.

Follow these steps to change **MENU** *settings on the Printer.*

1. To enter **MENU MODE**, press and hold the **SHIFT** key while pressing the **SELECT** key.
   - The "**MENU**" legend will be illuminated.
2. With the printer in the **MENU MODE**, press the **PRINT** key
   - This prints all the programming options in the **MENU MODE**, as well as the current default settings.
   - It is recommended to use tractor fed paper.
   - The printed menu selections are different for each Emulation Mode.
3. Press the **GROUP** key to select the relevant **Group** that needs to be changed.
4. Press the **ITEM** key to select the relevant **Item** within the selected group.
5. Press the **SET** key to cycle through all the **Settings** available
6. Press and hold the **SHIFT** + **SELECT** keys to exit the **MENU MODE.**

NOTE: *Turning off the printer before exiting the* **MENU MODE** *will lose any changes made.*

Change Printer to These Settings

PRINTER SETTINGS

GROUP (Press **LINE FEED** to change)	ITEM (Press **FORM FEED** to change)	SET (Press **TOF SET** to change)
Printer Control	**Emulation Mode**	**IBM PPR**
Font	Print Mode	Utility
Font	DRAFT Mode	HSD
Font	Pitch	10 CPI
Font	Proportional Spacing	No
Font	Style	Normal
Font	Size	Single

6.1.2. OKI ML420 Report Printer, Continued

Symbol Sets	Character Set	Set 1
Symbol Sets	Language Set	American
Symbol Sets	Zero Character	Slashed
Symbol Sets	Code Page	USA

GROUP (Press **LINE FEED** to change)	ITEM (Press **FORM FEED** to change	SET (Press **TOF SET** to change)
Printer Control	**Emulation Mode**	**IBM PPR**
Rear Feed	Line Spacing	6 LPI
Rear Feed	Form Tear-off	Off
Rear Feed	Skip Over Perforation	No
Rear Feed	Page Length	11”
Bottom Feed	Line Spacing	6 LPI
Bottom Feed	Form Tear-off	Off
Bottom Feed	Skip Over Perforation	No
Bottom Feed	Page Length	11”
Top Feed	Line Spacing	6 LPI
Top Feed	Form Tear-off	Off
Top Feed	Skip Over Perforation	No
Top Feed	Page Length	11”
Set-Up	Graphics	Bi-directional
Set-Up	Receive Buffer Size	64K
Set-Up	Paper Out Override	No
Set-Up	Print Registration	0
Set-Up	Operator Panel Function	Full Operation
Set-Up	Reset Inhibit	No
Set-Up	Print Suppress Effective	Yes
Set-Up	Auto LF	No
Set-Up	Auto Select	No
Set-Up	SI Select Pitch (10CP)	17.1 CPI
Set-Up	SI Select Pitch (12CPI)	12 CPI
Set-Up	Time Out Print	Valid
Set-Up	Auto Select	No
Set-Up	Centering Position	DEFAULT
Set-Up	ESC SI Pitch	17.1 CPI
Set-Up	Power Saving	Disable
Set-Up	Power Save Time	5 Min
Parallel I/F	I-Prime	Buffer Print
Parallel I/F	Pin 18	+5v
Parallel I/F	Bi-Direction	Enable

6.1.2. OKI ML420 Report Printer, Continued

GROUP (Press **LINE FEED** to change)	ITEM (Press **FORM FEED** to change)	SET (Press **TOF SET** to change)
Printer Control	**Emulation Mode**	**IBM PPR**
Serial I/F	Parity	None
Serial I/F	Serial Data 7/8 Bits	8 Bits
Serial I/F	Protocol	X-On/X-Off
Serial I/F	Diagnostic Test	No
Serial I/F	Busy Line	SSD-
Serial I/F	Baud Rate	9600 BPS
Serial I/F	DSR Signal	Invalid
Serial I/F	DTR Signal	Ready on Pwr up
Serial I/F	Busy Time	200 ms

6.1.3. TM-U590 Ticket Printer

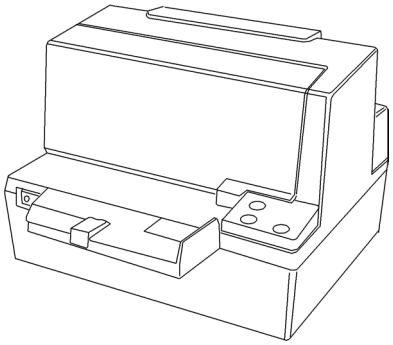
- Use cable **25932.**

BAUD	**9600**
PARITY	**No**
DATA BITS	**8**
STOP BIT	**1**

Set the printer **dip switche**s as listed below.

DSW 1: 1, 3, and 7 = **ON** only.

DSW 2: All Switches = **OFF**



Cable 25932 Wiring for COM 1-3

DB-9 INSTRUMENT	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
2	RxD	BR	2	TxD
3	TxD	R	3	RxD
4	DRT	O	6	DSR
5	SG	Y	7	SG
6	DSR	G	20	DTR
7	RTS	BL	5	CTS
8	CTS	BK	4	RTS

6.1.3. TM-U590 Ticket Printer, Continued

Cable 25932 Wiring for Serial Expansion Module*

RS232 PORT 1: COM7 XX	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
TB1**a**-2	RxD	BR	2	TxD
TB1**a**-3	TxD	R	3	RxD
TB1**a**-4	DRT	O	6	DSR
TB1**a**-5	SG	Y	7	SG
TB1**b**-6	DSR	G	20	DTR
TB1**b**-7	RTS	BL	5	CTS
TB1**b**-8	CTS	BK	4	RTS

* *Must remove the* **9-pin connector**.

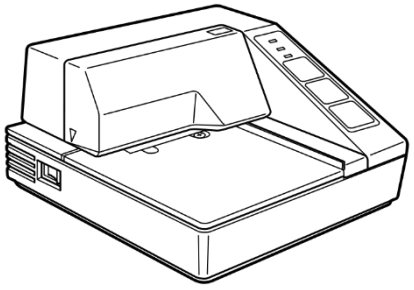
6.1.4. TM-U295 Ticket Printer

- Use cable **25932**.

BAUD	**9600**
PARITY	**No**
DATA BITS	**8**
STOP BIT	**1**

Set the printer **dip switches** as listed below.

- **SW1**: 1 and 3 = **ON**
- Remainder = OFF



Cable 25932 Wiring for COM 1-3

DB-9 INSTRUMENT	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
2	RxD	BR	2	TxD
3	TxD	R	3	RxD
4	DRT	O	6	DSR
5	SG	Y	7	SG
6	DSR	G	20	DTR
7	RTS	BL	5	CTS
8	CTS	BK	4	RTS

6.1.4. TM-U295 Ticket Printer, Continued

Cable 25932 Wiring for Serial Expansion Module*

RS232 PORT 1: COM7 XX	DESCRIPTION	WIRE COLOR	DB-25 PRINTER	DESCRIPTION
TB1**a**-2	RxD	BR	2	TxD
TB1**a**-3	TxD	R	3	RxD
TB1**a**-4	DRT	O	6	DSR
TB1**a**-5	SG	Y	7	SG
TB1**b**-6	DSR	G	20	DTR
TB1**b**-7	RTS	BL	5	CTS
TB1**b**-8	CTS	BK	4	RTS

** Must remove the* **9-pin connector**.

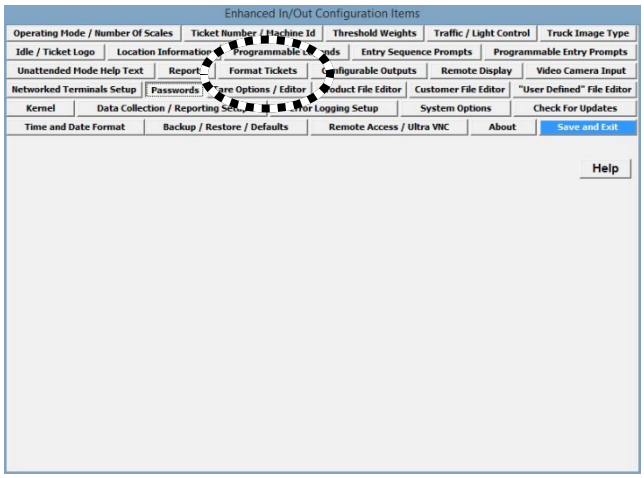
6.2. Formatting Tickets

Follow these steps to access the **Format Scale Tickets** window.

1. From the **Main Weigh Window**, press the **Home** button on the external keyboard.

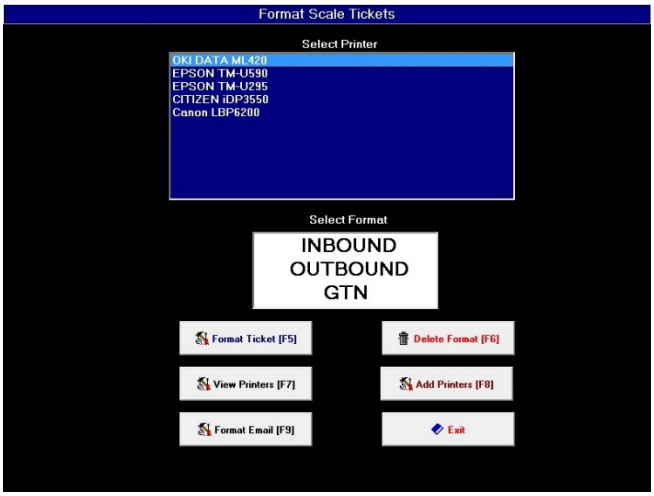
Pressing the **Home button** *accesses the* **Main Configuration**

2. Press the **Format Tickets** tab.



3. Select the correct **printer.**

4. Select the correct **ticket format**.



The complete ticket formatting procedure is outlined in this section.

6.2.1. Ticket Layout

The **Ticket Layout Screen** is comprised of a grid with all the current page default elements on it.

✓ **Default = Eight inches (8”) wide by eleven inches (11”) long**

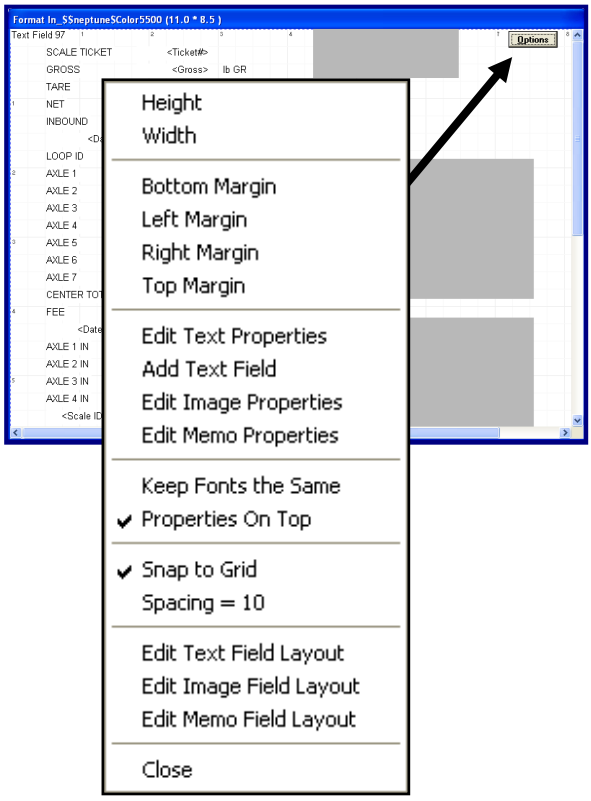
- Size of the page can be altered, as described on the following pages.
- The ticket is referenced from the **top left corner** for normal printing.
- Each major grid line is marked by a numeric value representing **an inch**.
- Each major grid block is comprised of **16 smaller grid lines**, both horizontally and vertically.
- This allows the data to be located to the nearest **sixteenth of an inch**.
- The actual data items to be printed are identified with **greater than (>)** and **less than (<) brackets**.

Example

<Gross> represents the actual **Gross Weight Value** to be printed.

- Each item within these brackets, **< >**, prints the actual data.
- The other items without the brackets are simply text items or legends for the data items.

6.2.2. Options Button

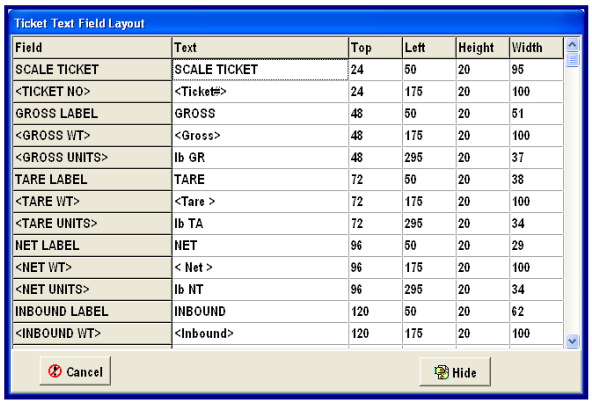


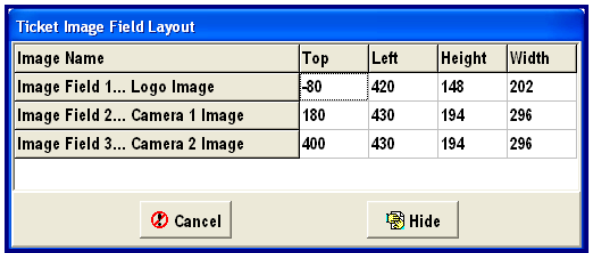
*Note: The **420 serial printer** requires the 520 driver to print tickets that are less than 11 inches in height.*

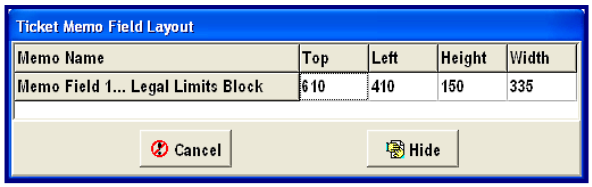
Window Name	Description
Options Button	• **Height –** Ticket height. • **Width** – Ticket width. • **Bottom Margin –** Edits t • **Left Margin –** Edits the fie • **Right Margin –** Edits the • **Top Margin –** Edits the f • **Edit Text Properties** – (window. • **Add Text Field** – Inserts numbered position. • **Edit Image Properties** – Alters placement. • **Edit Memo Properties** – Alters **Font and Paragraph Properties**, etc.) and/ • **Keep Fonts the Same** – The for • **Properties On Top** – Places the **perties** on top of the **Ticket Layout** scree • **Snap to Grid** – Causes the data tself to the nearest grid line position • **Spacing = 10 –** Opens the **Enter Grid Spacing** window. — Grid spacing values range from **two (2) to twenty (20)**.

6.2.2. Options Button, Continued

Window Name	Description
	• **Edit Text Field Layout** – Manually changes the location, size and properties of each field in the **Ticket Layout** screen. • **Edit Image Field Layout** – Manually changes the location and size of each field in the **Ticket Layout** screen. • **Edit Memo Field Layout** – Manually changes the location and size of each field in the **Ticket Layout** screen. • **Close –** Closes the **Ticket Layout** screen.







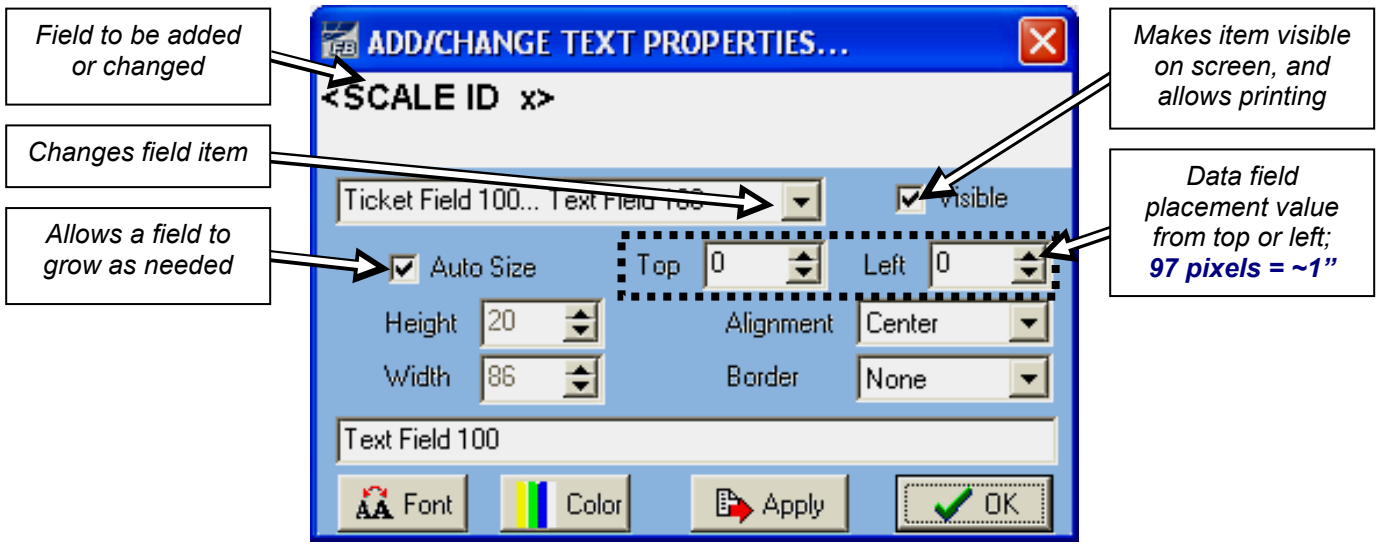
The **Edit Text Field Layout, Ticket Image Field Layout**, *and the* **Ticket Memo Field Layout** *manually change location, size and properties of the ticket fields, and is great for minute adjustments.*

6.3. Formatting a Ticket

Formats the Text within a ticket.

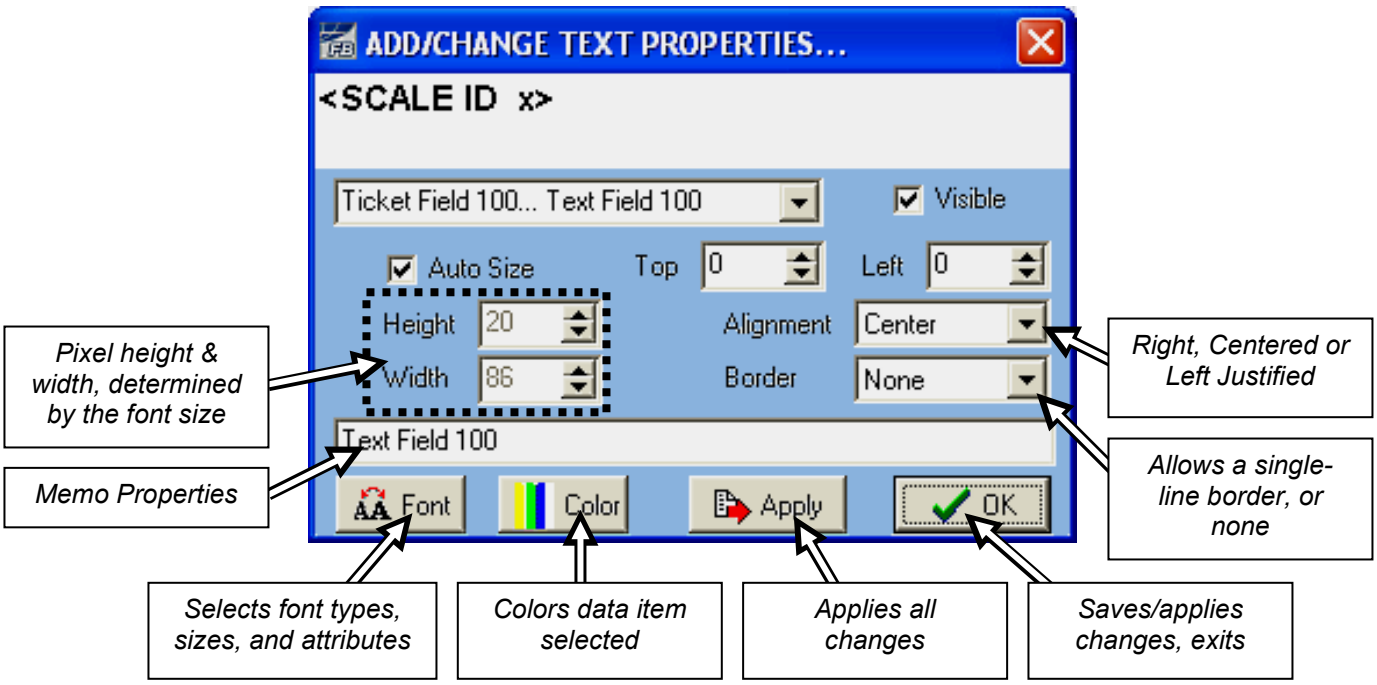
- Access the **ADD/CHANGE TEXT Properties** window by right-clicking on any data item, or by pressing the **Options** button and selecting **Edit Text** properties.
  - Properties for each field are individually set.
  - There is a maximum of **one hundred-twenty (120)** report fields available for each ticket.
    - *The first* **ninety-six (96)** *report fields are pre-defined.*

Field or button	Descriptions
Text Input Field	Enters or edits the text to describe this **Data Field Heading**.
"Ticket Field XXX… <'Field Descriptor'>"	Identifies **which** Data Field is being added or edited.
Visible	Check box that makes this Data Field **visible on the screen**, and includes it when printing.
Auto Size	Makes the image size on the ticket the actual size of the image file. The **Height** and **Width properties** are grayed-out.
Top and **Left**	**Places** the Data Field into its position, according to the top and left edges of the window. ✓ **97 pixels = ~1**

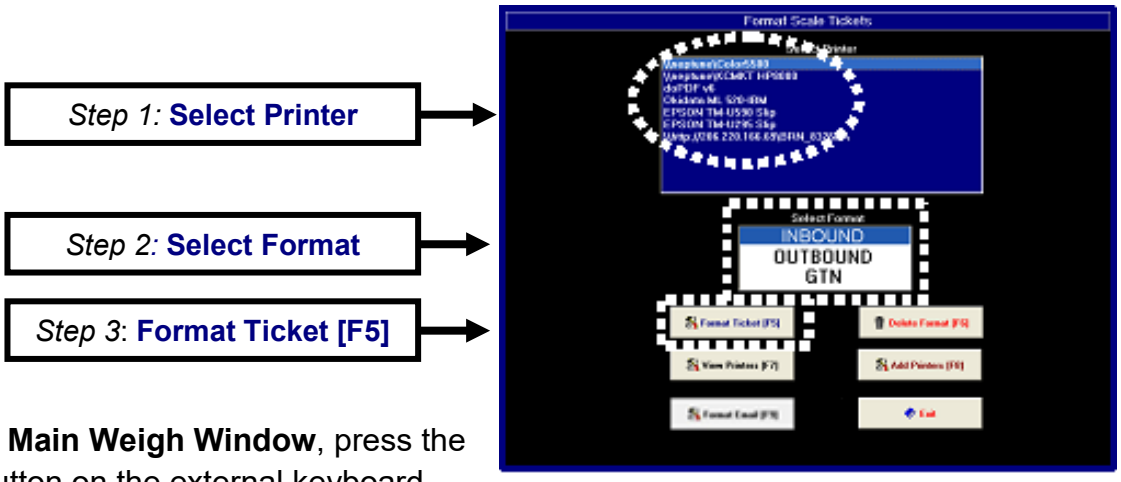


6.3. Formatting a Ticket, Continued

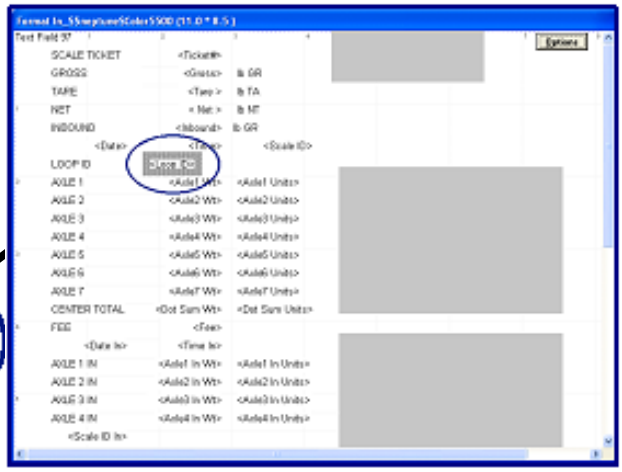
Field or button	Descriptions
Height and **Weight**	**Sets the pixel size** of each Data Field. This is automatically determined by the font size, but can be adjusted manually using these settings.
Alignment	Places the image within the **Height** and **Width Values**, if the image size is smaller. Settings include **Right, Centered***, or **Left Justified.**
Border	Allows a S**ingle-line border** to frame the Data Field, or **None.**
Memo Properties	Adds additional descriptive text to the Data Field.
Font	Selects the **font type, size**, and **attributes**.
Color	**Colors the text** within the Data Field.
Apply	**Applies the changes** to the Data Field without saving, to view how it appears onscreen.
OK	**Saves** and **applies the changes,** then exits from that Data Field.



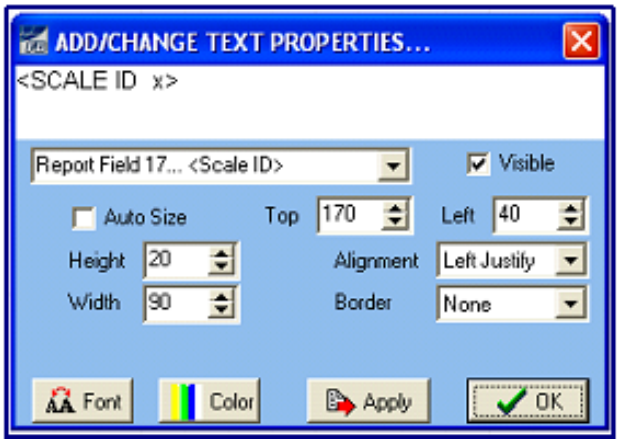
6.3.1. Adding a New Ticket Format



1. From the **Main Weigh Window**, press the **Home** button on the external keyboard.
2. Press the **Format Tickets** tab.
3. Select the **Printer**.
4. Select the Format.
   - **Inbound**
   - **Outbound**
   - **GTN**
5. Press the **Format Ticket [F5]** button.
   - A basic, default ticket template appears, which can be adjusted to fit the business' specific needs.



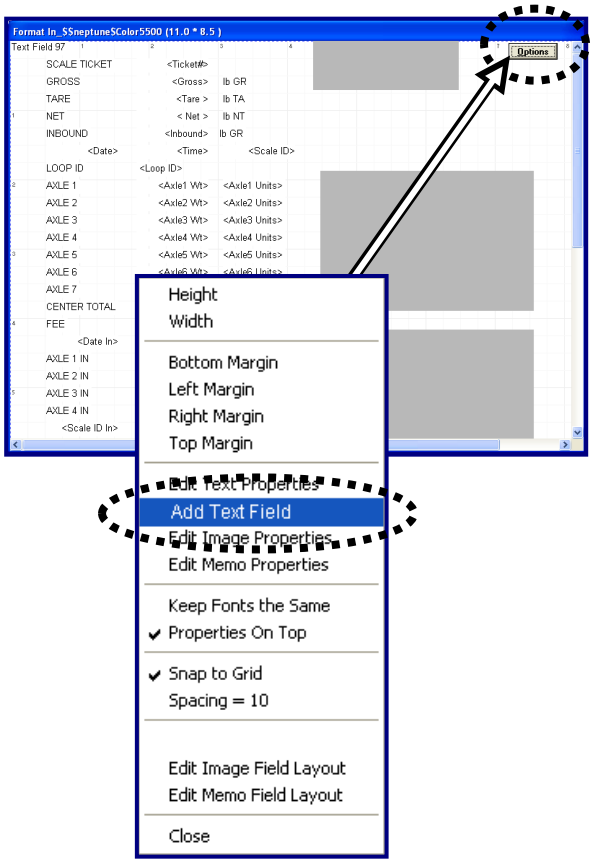
6. Adjust the placement of a current field by left-click-holding, then dragging it to its new location.
   - The **Add/Change Text Properties…** window opens once the mouse button releases.
7. Adjust the field properties to fit the necessary ticket format.



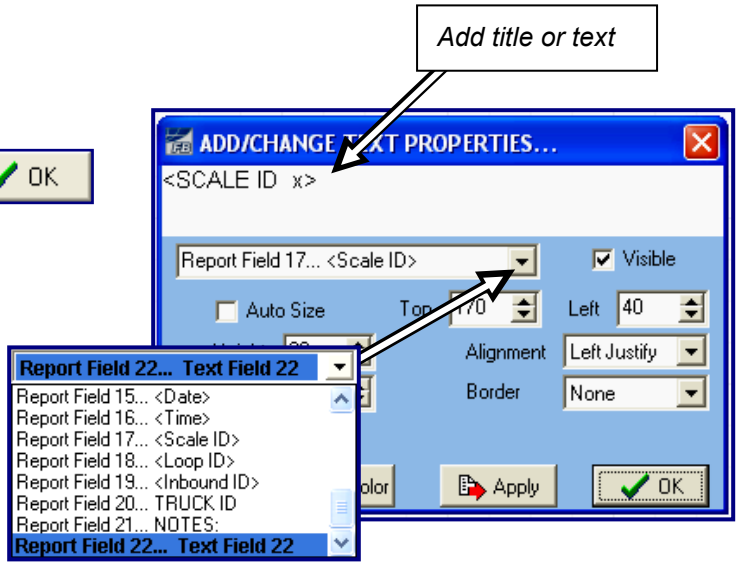
8. Click Apply to view the edits.
9. Once all edits are correct, click OK to save them.

6.3.2. Adding a Text Field

1. To add a field, click **Options**.



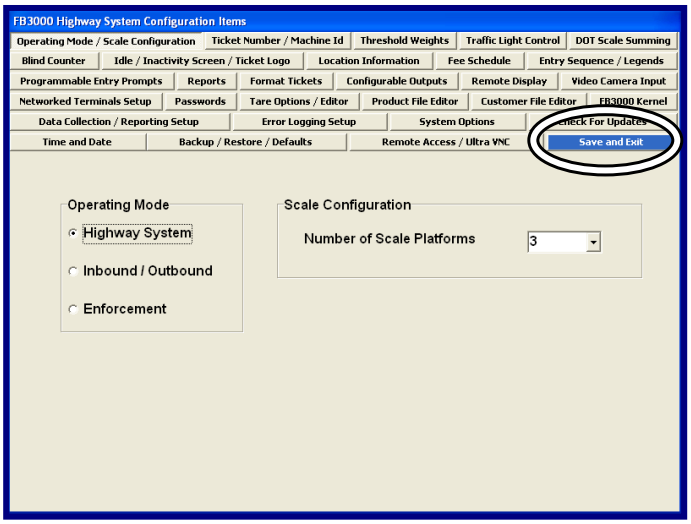
2. Select **Add Text field.**
3. ***Drag-and-drop*** the field where it belongs on the page.
4. In the **Text** field, add a title or text, as needed.
5. In the **Report** field drop-down list, select the appropriate type of field.
6. Format the field size, placement, font size and style, as needed.
7. Click **Apply** to view the edits.
8. Once all edits are correct, click **OK** to save them.
9. Click the button to close the window.

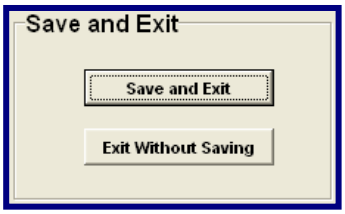


6.3.2. Adding a Text Field, Continued

10. Press **Save and Exit.**
11. Confirm the selection.

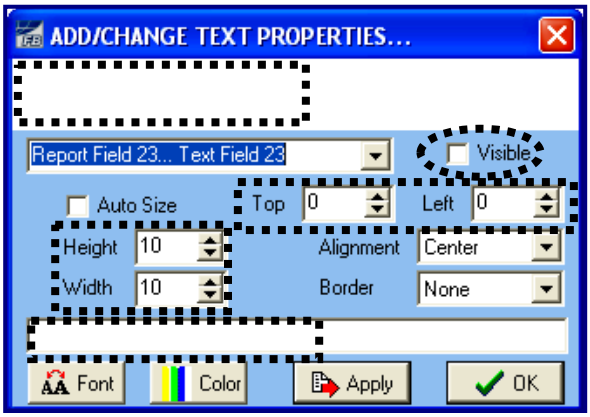
After finishing this process, the display will return to the main Weigh Window.

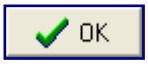




6.3.3. Deleting a Text Field

1. From the **Ticket Layout Screen**, click on the unneeded field.
   - The field highlights with a bold rectangle.
   - The **ADD/CHANGE TEXT PROPERTIES…** window opens
2. Remove all information from the **Title** and/or **Text** fields.
3. Input **0** in to the **Top** and **Left** fields.
4. Input **10** in the **Height** and **Weight** fields.
   - These are the minimum amounts allowed.



5. Uncheck the **Visible** box.
6. Once all edits are correct, click 

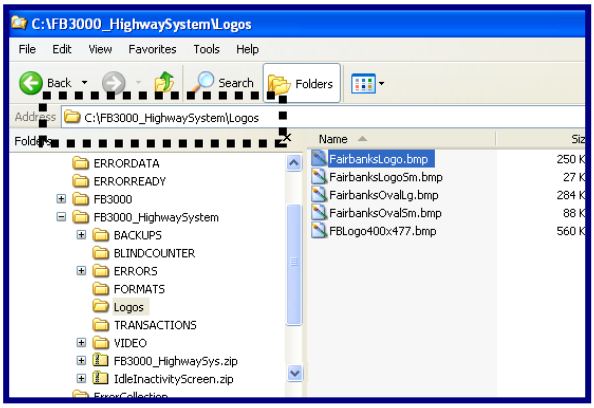
to save them.
7. Click the  button to close the window.

6.3.4. Adding a Logo/Image

To add a new logo or image to the ticket, the image file must be in the correct format, and then saved in the appropriate folder.

1. **Save the Image File** in the following address:

C:\FB4000_EnhancedIO\Logos



- Image types include the following file extensions.

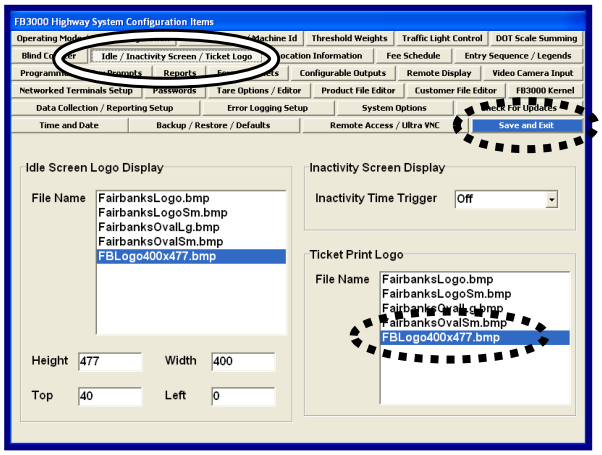
  – .jpg – jpeg – .bmp – png – gif
  – .tif – .eps – .emf

2. From the **Main Weigh Window**, press the **Home** button on the external keyboard.

Pressing the **Home button** *accesses the* **Main Configuration Window.**

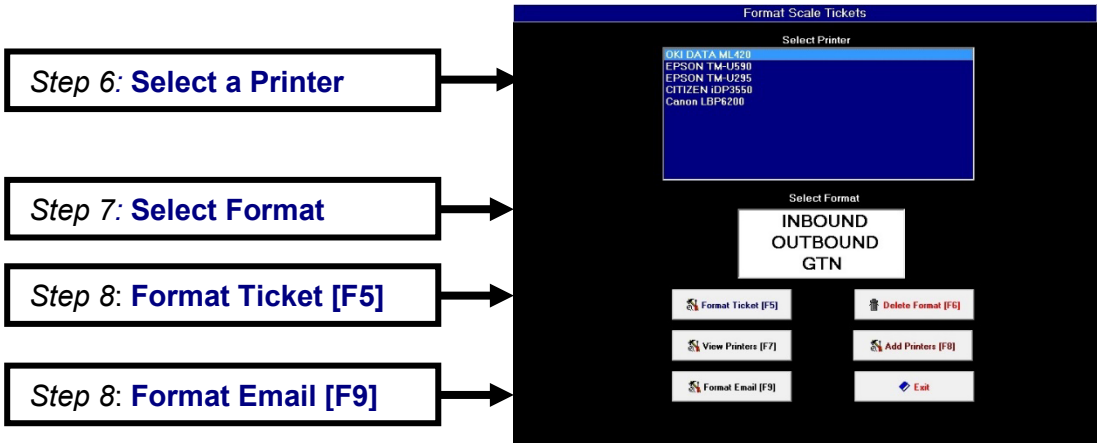
6.3.4. Adding a Logo/Image, Continued

3. Press the **Idle / Inactivity Screen / Ticket Logo** tab.



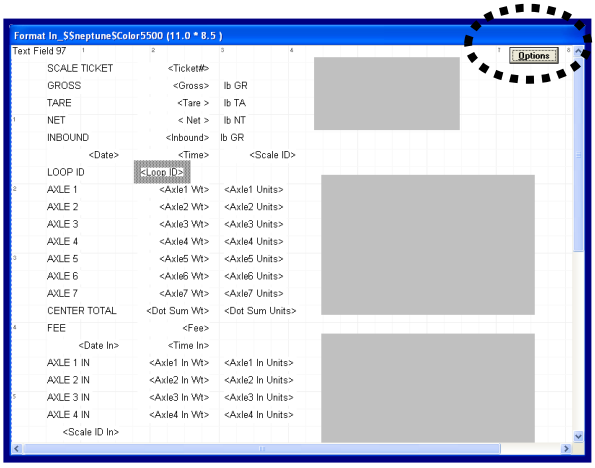
4. Highlight the correct logo image file to be displayed screen and on the ticket.
   - Due to ticket size constrains, only one image or logo is allowed.

5. Open the **Format Tickets** tab.



6. Select the **Printer**.
7. Select the Format.
   - **Inbound**
   - **Outbound**
   - **GTN**
8. Press the **Format Ticket [F5]** button.
   - The **Ticket Configuration** window displays.
9. Press the **Format Ticket [F9]** button.
   - The **Format Email Template** window displays.

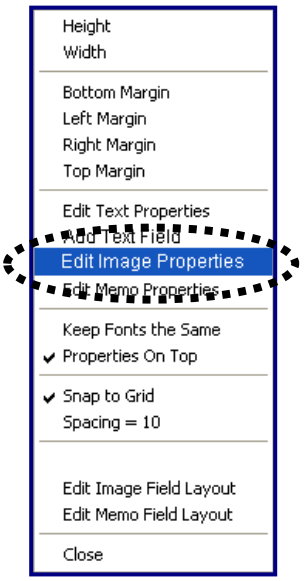
6.3.4. Adding a Logo/Image, Continued



10. Drag-and-drop the grayed-out image to wherever it belongs on the ticket.

11. To edit the logo image further, double-click on it, or click **Options** .

12. Select **Edit Image Properties**.



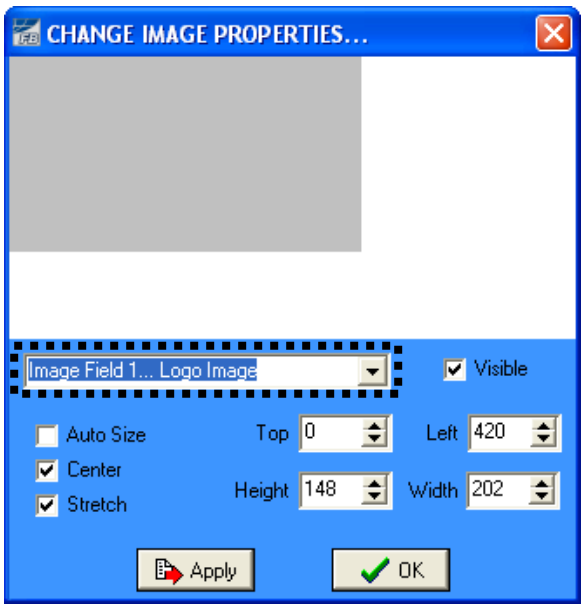
13. In the **"Image Field X… <'Image File Name'>"** drop-down menu, select the correct logo or image file.
    - All listed will be from the folder **C:\FB4000_EnhancedIO\Logos**

14. Format the field size, placement, font size and style, as needed.

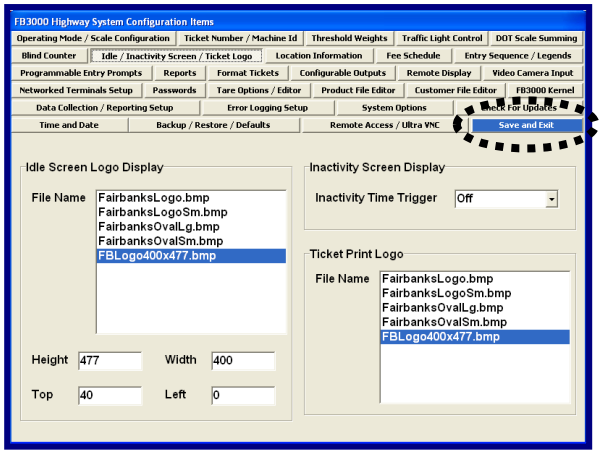
15. Click **Apply** to view the edits.

16. Once all edits are correct, click **OK** to save them.

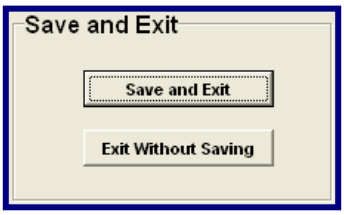
17. Click the button to close the window.



6.3.4. Adding a Logo/Image, Continued



18. Press **Save and Exit.**
19. Confirm the selection.



After finishing this process, the display will return to the main Weigh Window.

Section 7: Operation

7.1. System Boot-up Procedure

Initiate the power up sequence by plugging in the instrument.

Normal indications include the following:

- Lights on the keyboard should blink.
- A Windows welcome screen appears.
- Lastly, a **Weighing Application Window** appears.

7.2. Application Shut-Down Procedure

1. To close the Enhanced I/O System Program,

press 

.

2. Double-click on the **YES** button in the **Exit Application** window.

3. Turn off the power using the **ON/OFF** rocker switch.

C A U T I O N

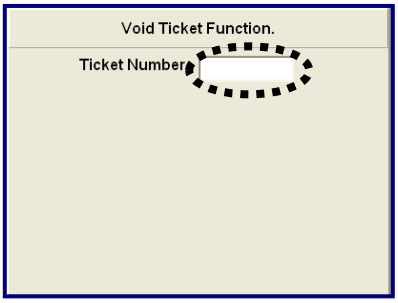
Improper shutdown of this instrument can cause damage to the hard drive and loss of data.

7.3. Voiding a Ticket

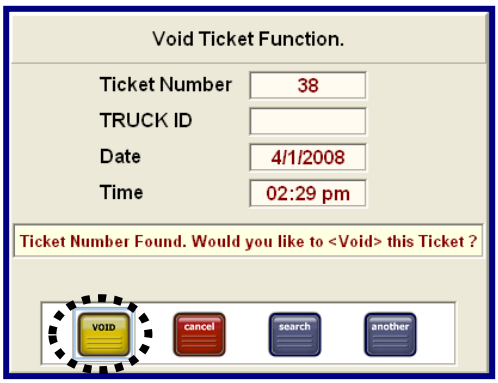
Follow these steps to **VOID** an **active ticket**.

NOTE: *For this function to work, all vehicles must be off of the scale.*

1. On the ***external keyboard***, press F4.
2. Enter the **Ticket Number**.
3. On the ***external keyboard***, press **Enter**.

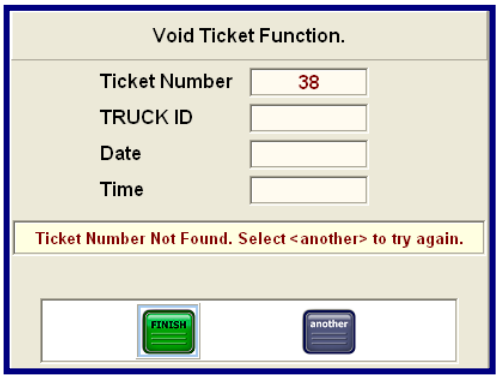


4. In the **Void Ticket Function** window, press VOID.
   - The ticket is voided immediately and permanently.
   - Press cancel to abort the transaction.
   - Press search to find another occurrence of the entered ticket number, in case there are multiple transactions with the same ticket number.
   - Press another to void a different ticket.



7.3.1. Void Ticket Function

1. If this ticket number has not yet been generated, a notification window appears.
2. Press FINISH, or another to find a different ticket.



Section 8: Service & Maintenance

• IMPORTANT PRECAUTION ★

- ***Before handling the FB4000 boards or other system components, the certified service technician must always be properly grounded.***
  - Electrostatic Discharge (**ESD**) severely damages all computer components.
  - Remove the anti-static packaging ***only when the parts are ready for installation.***
  - Handle the boards by their edges, and avoid touching their components.

8.1. Steps to Writing Error Condition Files

1. An ***Error Condition*** formats a file name as described below.
2. The initiating application then checks for a pre-existing error file name.

   2a. If none is found, the error file is written.

   2b. If it *does* exist, the error file is not written.

   - This allows the **Error Notification Application** to control the frequency of repeating errors (such as Load Cell Failure and Float Switch On) by deleting the error file when it is ready to check for a continued error.

   2c. The error files are written to the **"Errors" directories** using the **"Data/Ready"** file writing scheme.
3. In the case of a multiple terminal installation, each terminal will report its own errors.
4. An additional key and value is added to the **[Data]** section to identify the terminal.

8.2. Error File Format

[Error]	Description = xxxxxxx	(description of error)
[Data]	yyyy = zzzz	(keys and values specific to the error, as many lines as needed)

8.3. Weight Kernel Errors

The following is a list of error conditions and their file names.

ERROR CONDITION	FILE NAME	FILE CONTENTS
Calibration Change	CalibrationChange_# (# = Weight used)	**[Error]** Description=Calibration Change **[Data]** Calibration Wt=#
Cell Motion Error	CME_#.ERR (# = cell number)	**[Error]** Description=Possibly Dead Cell **[Data]** Cell=#
Float Switch On	FloatSwitchOn	**[Error]** Description=Float Switch On
Scale Behind Zero	SBZ_#_t.ERR (# = Scale) (t = A if t < 400, B if wt >= 400	**[Error]** Description=Scale Behind Zero **[Data]** Scale=# Range=A or B
Load Cell Failure	LCF_#.ERR (# = cell number)	**[Error]** Description=Load Cell Failure **[Data]** Cell=#
Section Error	SER_# (# = Section)	**[Error]** Description= Sectional Error! **[Data]** Section=#
Scale Trimmed	STR.ERR	**[Error]** Description=Scale Trimmed
Cell Warning Error	CWE_#.ERR (# = cell number)	**[Error]** Description=Possible Stuck Cell **[Data]** Cell=#
Load Cell Drift	LCD_#.ERR (# = cell number)	**[Error]** Description=Load Cell Drift **[Data]** Cell=#

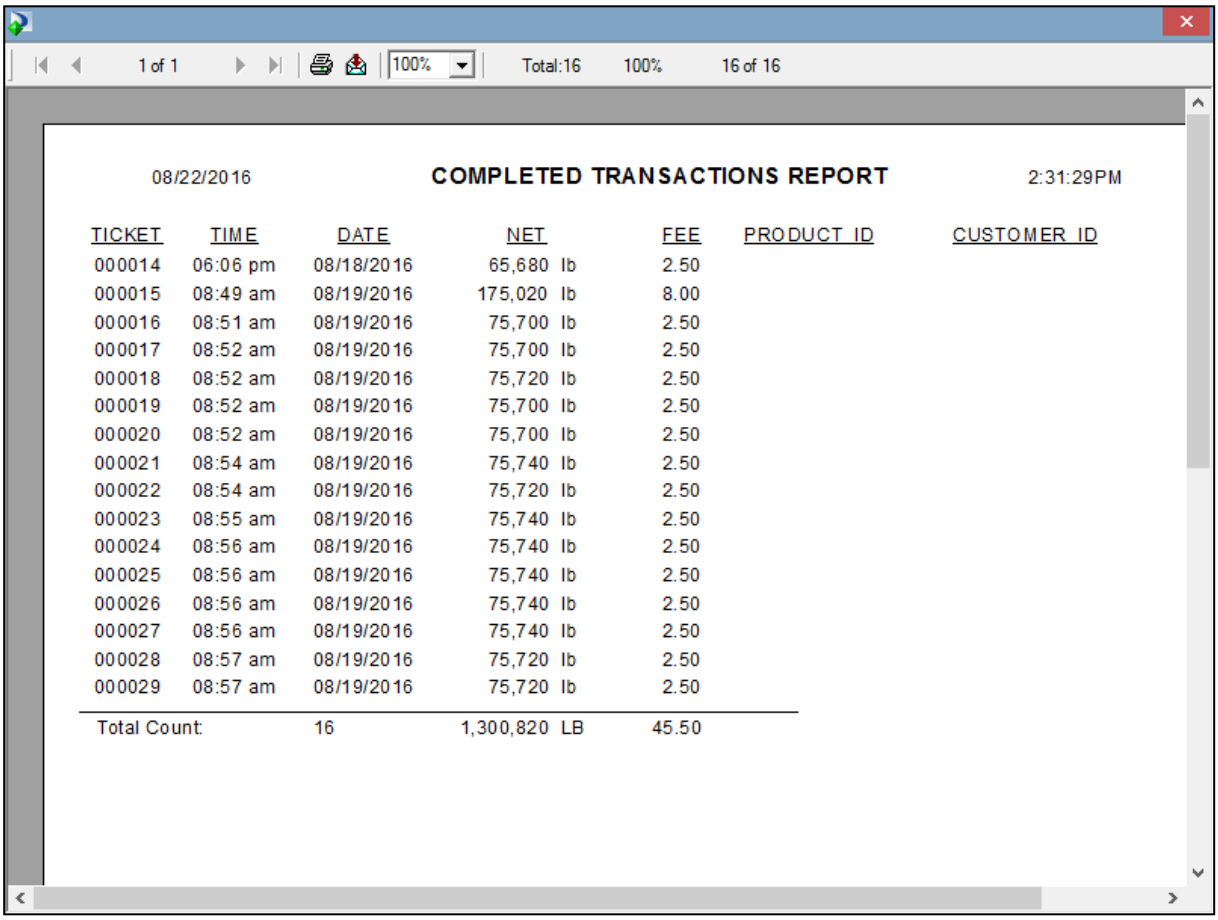
8.4. Enhanced I/O System User Interface Errors

ERROR CONDITION	FILE NAME	FILE CONTENTS
Data Collection/ Reporting Application not running	**DCR.ERR**	**[Type]** Code = DCR

Appendix I: Report Examples

A. Completed Transactions Report

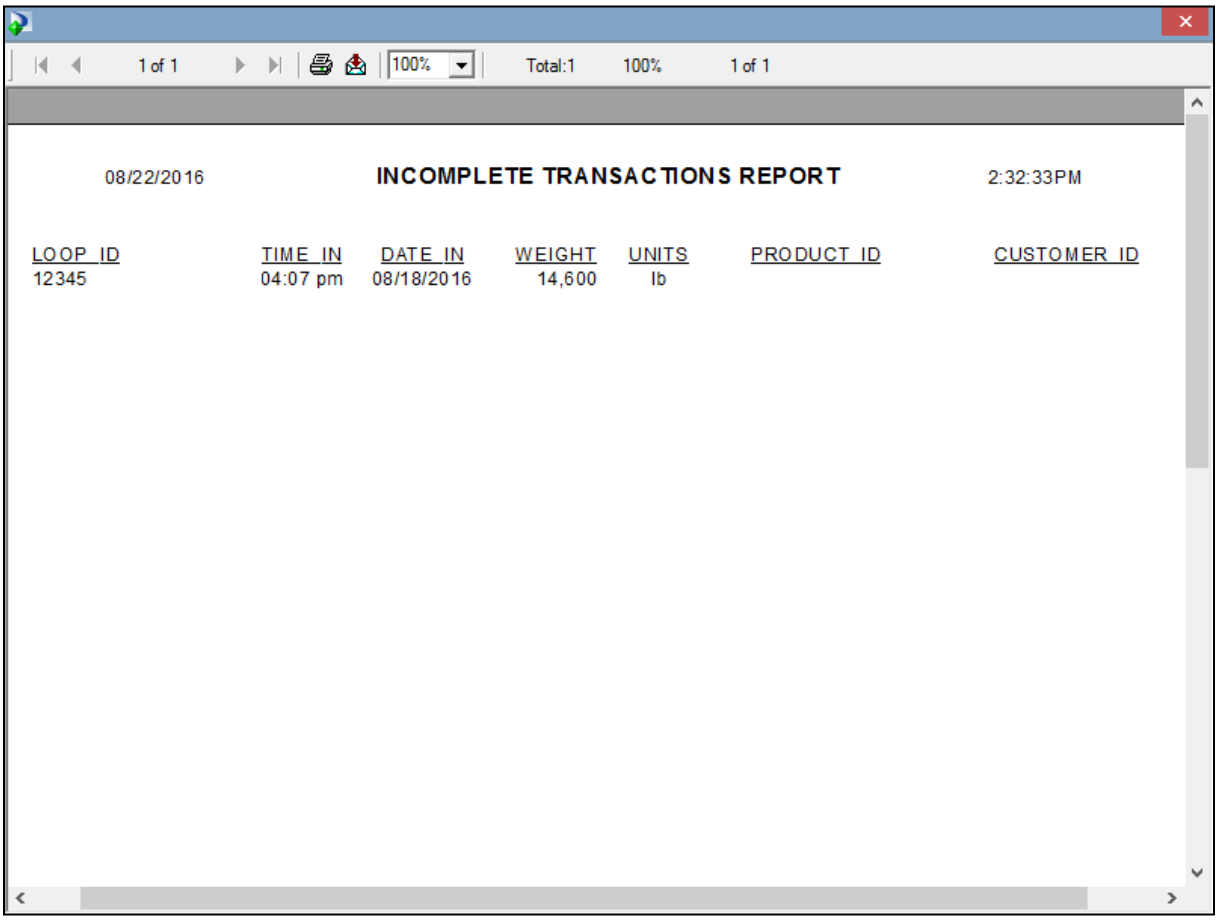
This report summarizes ***all*** the transactions that are complete and final.



TICKET	TIME	DATE	NET	FEE	PRODUCT ID	CUSTOMER ID
000014	06:06 pm	08/18/2016	65,680 lb	2.50		
000015	08:49 am	08/19/2016	175,020 lb	8.00		
000016	08:51 am	08/19/2016	75,700 lb	2.50		
000017	08:52 am	08/19/2016	75,700 lb	2.50		
000018	08:52 am	08/19/2016	75,720 lb	2.50		
000019	08:52 am	08/19/2016	75,700 lb	2.50		
000020	08:52 am	08/19/2016	75,700 lb	2.50		
000021	08:54 am	08/19/2016	75,740 lb	2.50		
000022	08:54 am	08/19/2016	75,720 lb	2.50		
000023	08:55 am	08/19/2016	75,740 lb	2.50		
000024	08:56 am	08/19/2016	75,740 lb	2.50		
000025	08:56 am	08/19/2016	75,740 lb	2.50		
000026	08:56 am	08/19/2016	75,740 lb	2.50		
000027	08:56 am	08/19/2016	75,740 lb	2.50		
000028	08:57 am	08/19/2016	75,720 lb	2.50		
000029	08:57 am	08/19/2016	75,720 lb	2.50		
Total Count:		16	1,300,820 LB	45.50		

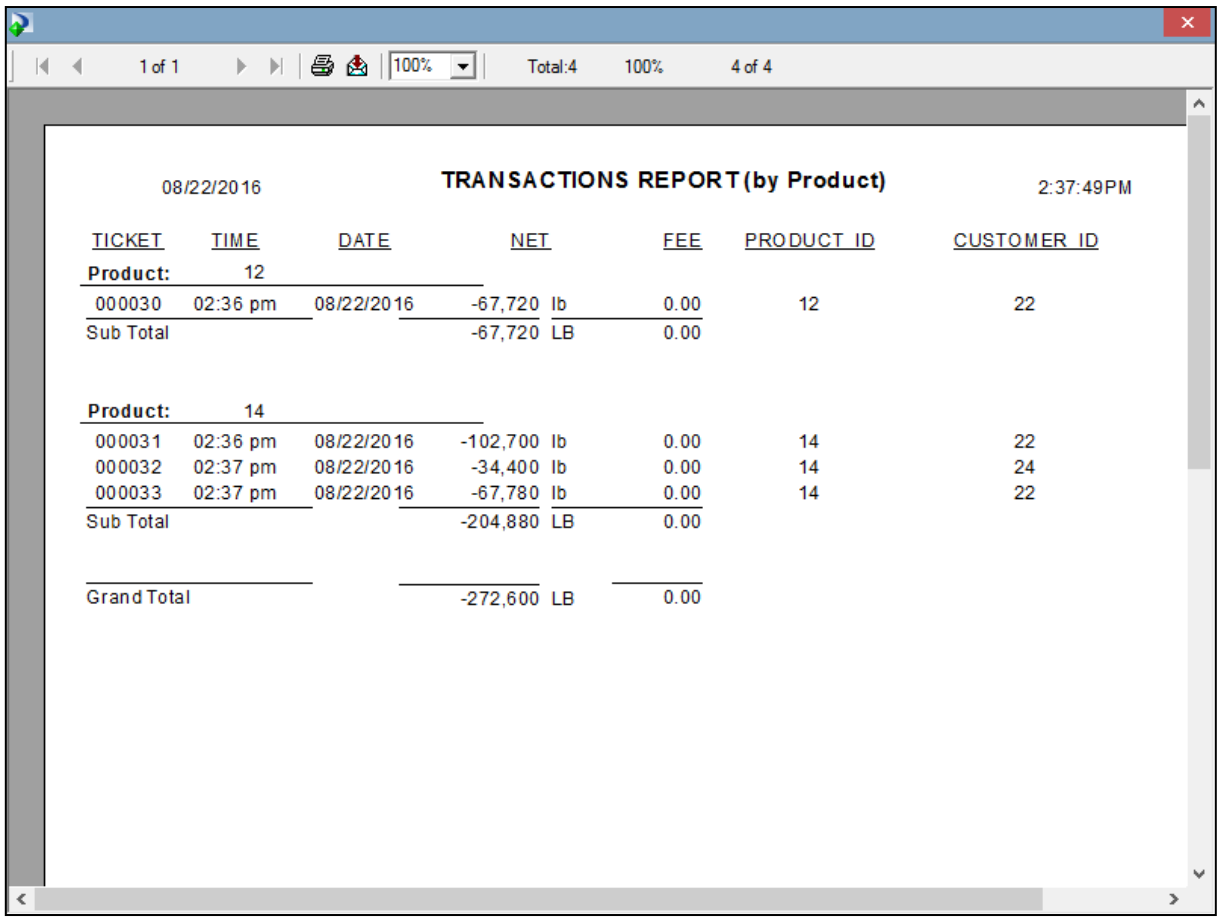
B. Incomplete Transactions Report

An **Incomplete Transactions Report** is used with the **Inbound/Outbound Application.** An event generated for it occurs when a vehicle makes its first weighment, but does not complete the transaction with the second (final) weighment.



C. Report by Product Report

This displays all the transactions sorted by **Products**.

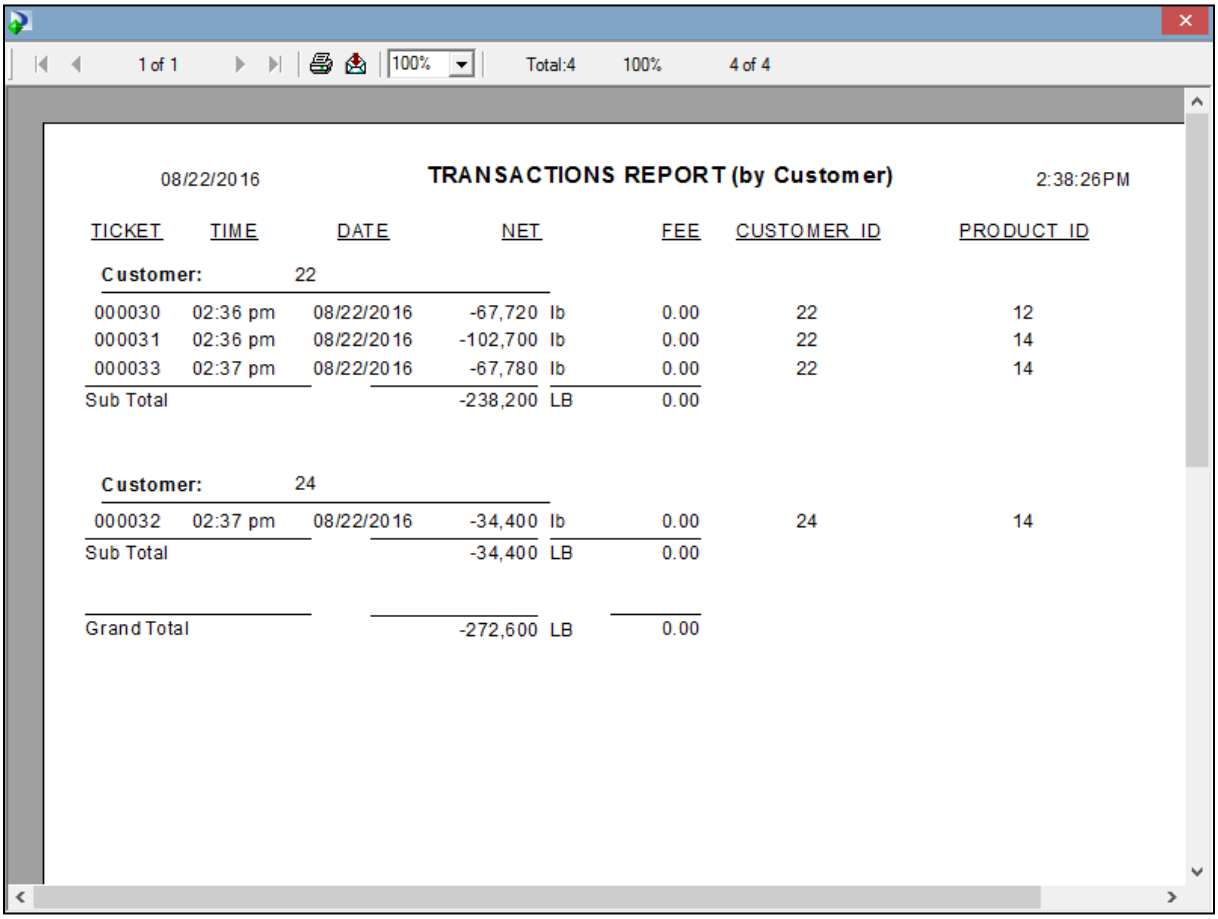


08/22/2016 **TRANSACTIONS REPORT (by Product)** 2:37:49PM

TICKET	TIME	DATE	NET		FEE	PRODUCT ID	CUSTOMER ID
Product:	12						
000030	02:36 pm	08/22/2016	-67,720	lb	0.00	12	22
Sub Total			-67,720	LB	0.00		
Product:	14						
000031	02:36 pm	08/22/2016	-102,700	lb	0.00	14	22
000032	02:37 pm	08/22/2016	-34,400	lb	0.00	14	24
000033	02:37 pm	08/22/2016	-67,780	lb	0.00	14	22
Sub Total			-204,880	LB	0.00		
Grand Total			-272,600	LB	0.00		

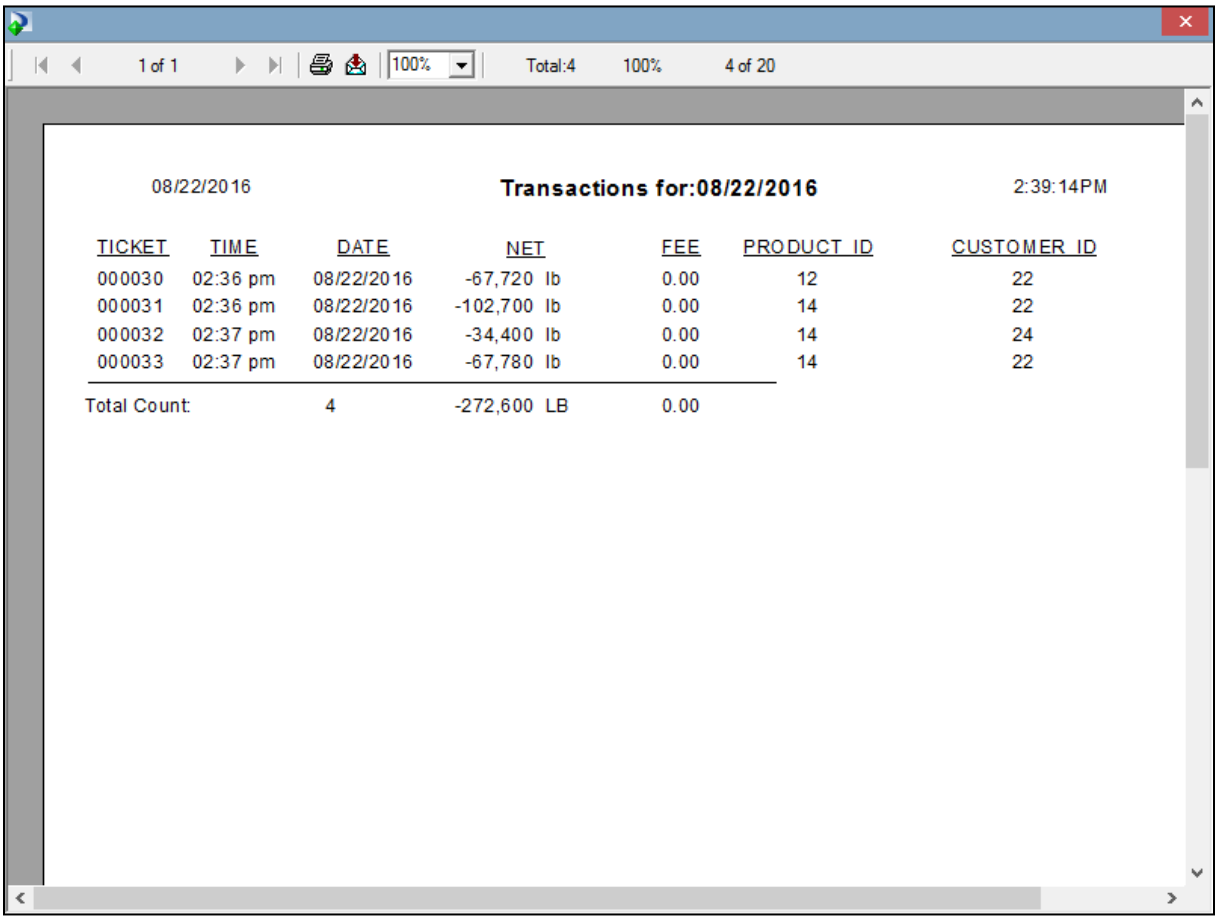
D. Report by Customer Report

This displays all the transactions sorted by **Customers**.



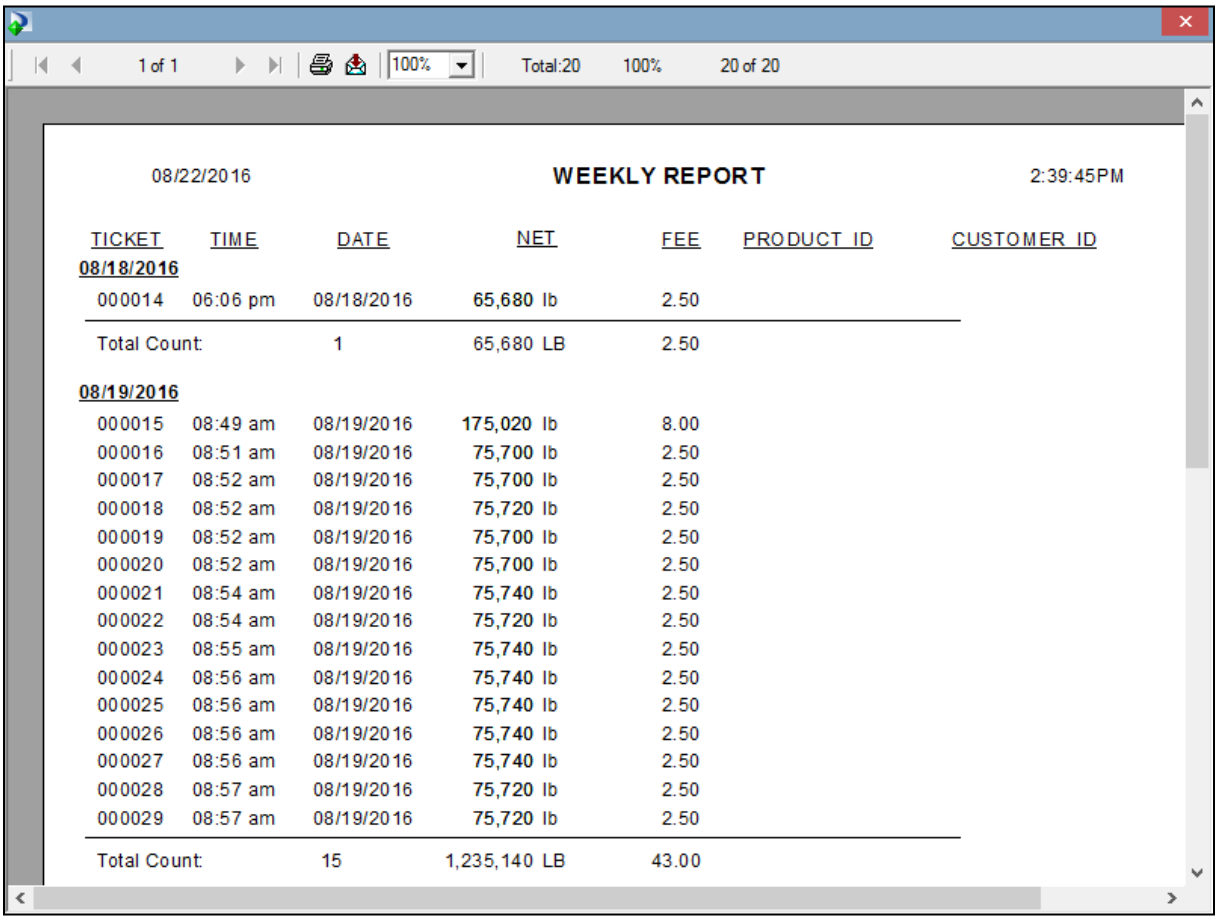
E. Daily Report

This displays all the transactions of any particular day.



F. Weekly to Date Report

This displays all the transactions of any particular **Week**.



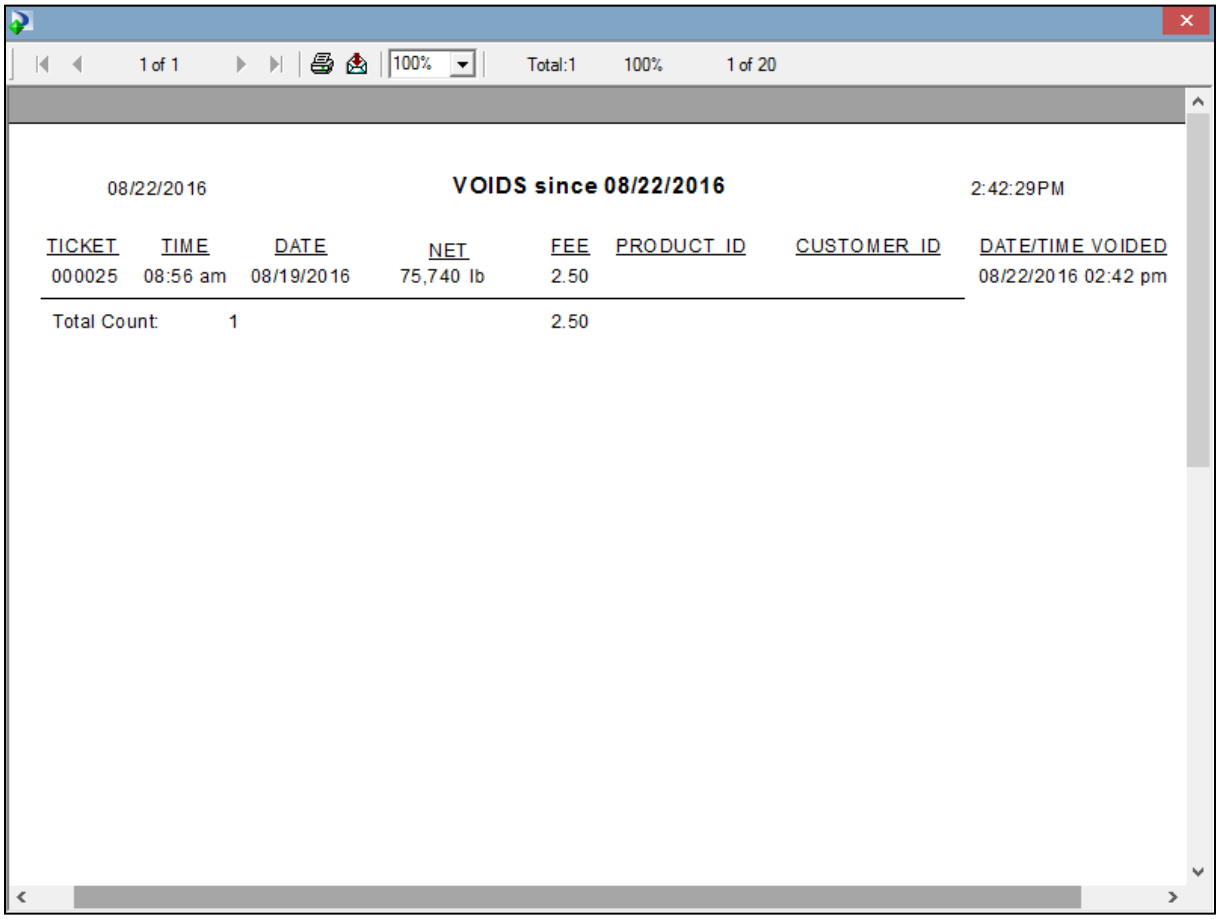
1 of 1 | 100% | Total:20 | 100% | 20 of 20

08/22/2016 **WEEKLY REPORT** 2:39:45PM

TICKET	TIME	DATE	NET	FEE	PRODUCT ID	CUSTOMER ID
08/18/2016						
000014	06:06 pm	08/18/2016	65,680 lb	2.50		
Total Count:		1	65,680 LB	2.50		
08/19/2016						
000015	08:49 am	08/19/2016	175,020 lb	8.00		
000016	08:51 am	08/19/2016	75,700 lb	2.50		
000017	08:52 am	08/19/2016	75,700 lb	2.50		
000018	08:52 am	08/19/2016	75,720 lb	2.50		
000019	08:52 am	08/19/2016	75,700 lb	2.50		
000020	08:52 am	08/19/2016	75,700 lb	2.50		
000021	08:54 am	08/19/2016	75,740 lb	2.50		
000022	08:54 am	08/19/2016	75,720 lb	2.50		
000023	08:55 am	08/19/2016	75,740 lb	2.50		
000024	08:56 am	08/19/2016	75,740 lb	2.50		
000025	08:56 am	08/19/2016	75,740 lb	2.50		
000026	08:56 am	08/19/2016	75,740 lb	2.50		
000027	08:56 am	08/19/2016	75,740 lb	2.50		
000028	08:57 am	08/19/2016	75,720 lb	2.50		
000029	08:57 am	08/19/2016	75,720 lb	2.50		
Total Count:		15	1,235,140 LB	43.00		

G. Voids Report

This displays all the **voided** transactions.



FB4000 Enhanced In/Out Application

Operators Manual

Document 51386

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